HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

OCT. 1935

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HYGEIA•

OCTOBER 1935

THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

Volume 13
Number 10

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OCTOBER 1935

Health by Radio Drama

By W. W. BAUER

BEGINNING Oct. 1, 1935, the American Medical Association presents a radio program in a new form. With the cooperation of the National Broadcasting Company the health education message will be broadcast during the winter of 1935-1936 in a more graphic and attractive form and, of course, with undiminished authenticity.

THE program will be identified under the same title that has been used for American Medical Association programs over the National Broadcasting Company network for the past two years: "Your Health." The salutation which will be heard through the strains of the opening theme will be a toast: "Ladies and Gentlemen—Your Health!"

The American Medical Association was among the first organizations engaged in health education to make use of the radio. Broadcasts by the American Medical Association were begun in 1923 and have been maintained as a continuous policy ever since, though there have been a few brief periods when no actual broadcasting was being done. Not only has the American Medical Association broadcast regularly from its headquarters at Chicago, but special health broadcasts have been made from its annual meetings at Philadelphia, Milwaukee, Cleveland and Atlantic City in the last five years. In addition more than 150 of its state and county constituent societies have been broadcasting regularly over local radio outlets. It is estimated that more than 7,000 radio talks are broadcast annually in the United States by state and county medical societies and the American Medical Association. The distribution of these broadcasts is such that there is practically no radio receiver in the United States which is not within the service area, at least during part of the year, of a radio broadcast sponsored by the American medical profession.

RADIO health talks by representatives of the medical profession have certain important qualities which act as a safeguard to the listener. The sponsorship of the

EDITORIAL

program by organized medicine assures authenticity of material presented, absence of faddism or unsupported conclusions, the exclusion of personal exploitation and freedom from any possible prejudices or bias which might be attributed to a commercially sponsored program.

RADIO health programs by representatives of the medical profession have in the past consisted mostly of didactic talks. On a few occasions, interviews have been used, and there have been one or two instances in which modifications of the dramatic form have been employed. In 1934-1935 the radio talks by the American Medical Association over the Columbia Broadcasting System were accompanied by organ music. The fall and winter program in cooperation with the National Broadcasting Company marks the first employment of the dramatization technic in a network program by the medical profession.

Under the title "Medical Emergencies and How They Are Met," programs will be broadcast showing the dangerous situations out of which arise burns, fractures, unconsciousness, shock, individual and epidemic disease and other medical emergencies. How these challenges are met in the everyday life of the doctor will be graphically portrayed by a dramatic cast with the aid of sound effects and incidental music. The programs will have the same educational value that American Medical Association programs have always had and in addition will be good entertainment. The day and hour when they may be heard will be found in an announcement published on another page in this issue of HYGEIA. The time may change during the winter. This program will be available to the stations on the Basic Blue network of the National Broadcasting Company. Persons who are interested in hearing these programs are invited to make their wishes known to that radio station listed in the announcement which will best bring the program to them. Evidence of local interest in the program may cause it to be broadcast when otherwise it might not be on the air locally.

READERS of HYGEIA are invited to become listeners to the radio program of the American Medical Association and to address their comments to the station to which they are listening or to the American Medical Association, Chicago.

"Ladies and Gentlemen—Your Health!"

PREVENTION and TREATMENT

AMONG THE GLANDS of internal secretion that exert the greatest influence on the physical, intellectual and emotional development and well being of the individual and regulate personality the thyroid gland plays a predominant part. The plastic beauty of the body loses its graceful lines and is replaced by ungainly stoutness; the lovely form of childhood is stunted in its development and gives rise to ugly dwarfism known as cretinism; fertility of mind and body gives way to sterility; the wells of emotion dry up, leaving a sediment of listlessness and apathy, whenever destruction of the thyroid gland occurs as the result of injury or disease. Many a distressingly stout person laboring under a burden of excess fat uncontrollable by the strictest dieting, many a dull pupil who is the despair of parent and teacher, many a child presenting a problem in behavior at home, in school or among his playmates may be a victim of thyroid insufficiency, which if corrected will produce a happy transformation.

More widely prevalent than insufficient function is excessive function or perverted function of the thyroid gland. This gives rise to a profound alteration in the physical and emotional make-up of the individual and to numerous disturbances of health which may be present long before enlargement of the thyroid gland calls attention to the seat of the trouble. Many a patient making the rounds of various medical clinics and private offices, complaining of nervousness, irritability, palpitation of the heart, sleeplessness, headache, weakness and loss of weight and strength, unrelieved by the usual remedies for so-called nervous exhaustion or run-down condition, may be suffering from unrecognized excessive activity or perverted activity of the thyroid gland. Medical experience records many instances in which patients have suffered a nervous breakdown, a mental breakdown or a cardiac breakdown as the result of unsuspected dysfunction of the thyroid gland. In these patients all the usual well tried remedies failed to produce any results. When, at last, the true underlying cause of the disease was found to reside in the thyroid gland and treatment was directed accordingly, the patients were restored to perfect health.

The great importance of the thyroid gland for individual and social welfare has been duly recognized. The thyroid gland has been most widely observed and studied in health and disease not only by the medical profession but also by an enlightened and interested general public. Because of its prominent position in the neck, it is also the one internal secretory gland whose changes in size, shape, form and relation to neighboring organs and tissues can most easily be detected not only by an experienced physician but also by the affected person or observant members of the family or close associates. Indeed, it has been a common medical experience to hear patients say that it was the school nurse, the school teacher, the friendly neighbor or a close friend who first observed the enlargement of the neck or the little lump at the base of the neck in the region of the thyroid gland, made especially conspicuous during animated talk or at the dinner table.

When the patient or physician was definitely established the presence of chronic enlargement of the thyroid gland, commonly known as goiter, the next step is to find out without delay the kind and character of the particular goiter in question and institute prompt treatment.

GOITER is not always uniform in kind and character but occurs under a variety of types or groups, each having a character, significance and treatment of its own with respect both to curability and to prevention.

Symmetrical or uniform enlargement of the thyroid gland not accompanied by any apparent disturbance of general health, the form commonly known as simple goiter although it is far from simple, is one of the most widespread diseases of the human race. It occurs in persons of all ages but is predominantly a disease of childhood and youth. It occurs more frequently in women than in men but is by no means rare in men. During the years 1917 and 1918, when many of our young men were in camp, careful medical examination revealed large goiters among thousands of recruits from different states of the Union. So-called simple goiter is more prevalent in certain regions than in others, but hardly any region is entirely free from its presence. Its early recognition and proper treatment form one of the most important medical and public health problems. Early treatment is essential to prompt cure by simple medical measures. Early cure of simple goiter is also one of the best and most efficient methods to prevent the later development of the more serious types of goiter which lead to marked disturbance of general health and occasionally degenerate into tumor and cancer.

The treatment of symmetrical nontoxic or simple goiter should not be undertaken by nonmedical persons, for the successful treatment of this type of goiter does not always depend on merely taking iodine either in medicinal form or as iodized table salt. Its successful treatment involves problems in hygiene, proper diet, elimination of all sources of infection of food and

# of GOITER

By Solomon Ginsburg

MANY A PATIENT MAKING THE ROUNDS OF VARIOUS MEDICAL CLINICS AND PRIVATE OFFICES, COMPLAINING OF NERVOUSNESS, IRRITABILITY, PALPITATION OF THE HEART, SLEEPLESSNESS, HEADACHE, WEAKNESS AND LOSS OF WEIGHT AND STRENGTH, MAY BE SUFFERING FROM UNRECOGNIZED EXCESSIVE OR PERVERTED ACTIVITY OF THE THYROID GLAND.

water supply, proper digestion and elimination, proper supply of iodine and thyroid medication. Patients with simple goiter who do not respond to iodine treatment may show good results from the proper use of desiccated thyroid. Careless or indiscriminate dosing with iodine may at times convert a simple goiter to a severe toxic goiter. Both iodine and desiccated thyroid are powerful drugs and may do harm if improperly used. They should therefore be used only under strict medical supervision.

The problem of simple goiter is at times far from being simple. Especially is this true in the late or neglected cases. In a certain proportion of these cases the most expert medical treatment fails to cure the goiter. In such cases more radical treatment will have to be considered. In the past, operation was the only method to get rid of the neck disfigurement and of the threatened dangers of persistent goiter. Today this condition does not always necessitate operation. Radium treatment properly and judiciously carried out by a physician specializing in such form of treatment has been applied with good results and without any harmful effects on the future health and development of the youthful patients, who are the most frequent sufferers from this type of goiter. Probably equally good results could be obtained by expert high voltage x-ray treatment.

THE old adage that an ounce of prevention is better than a pound of cure is especially true in the treatment of goiter. To prevent the development of simple goiter which, if neglected, may lead to the later development of toxic goiter and tumor and cancer of the thyroid and in the pregnant woman may give rise to degeneracy and idiocy in the offspring, the following principles must be scrupulously observed:

First, every expectant mother should have a thorough examination with special reference to

the proper state and functioning of the thyroid. If any disturbance in thyroid function is discovered, especially if underactivity is found, the patient should be put on proper dietetic and hygienic treatment including a proper supply of iodine and desiccated thyroid. Foods which are rich in iodine and vitamins should be eaten. Among these foods are crabs, oysters, mussels, shrimps, lobsters, milk and milk products, eggs, nuts, cod liver oil, many fresh fruits and green leafy vegetables, chocolate, cocoa, liver and cereal foods coming from a soil rich in iodine.

Second, every child with simple goiter should have brief courses of iodine treatment twice a year for a few years until past the stage of adolescence, when the tendency to the development of simple goiter greatly diminishes and only in the female sex reappears, under the stimulus of pregnancy and lactation.

Third, in regions where goiter is widely prevalent every man, woman and child should undergo an examination twice yearly, and if goiter is detected it should be promptly treated.

Asymmetrical, irregular or lumpy enlargement of the thyroid gland without any apparent disturbance of general health is a type of goiter which frequently, if not invariably, develops in persons with long standing or neglected simple goiter. It is of more serious significance than simple goiter, for it is the soil in which frequently develop toxic goiter, tumor and cancer. It is extremely rare in infancy and childhood. It usually occurs in adult life and is much more frequent in women than in men. Pregnancy and nursing usually stimulate its growth. When it reaches moderate size it is easily noted on inspection as a lump in the neck which moves up and down the neck when the person speaks or swallows. When small it is frequently overlooked not only by the patient but also by the examining physician. Its presence should always be suspected whenever one is troubled by a slight choking sensation in the throat, aggravated by emotional excitement or the taking of food or drink. The frequent complaint by nervous persons of a lump in the throat need not always be due to a spasm of the throat, technically known as globus hystericus, or hysterical lump. It may well be due to a small, deep seated goiter which is causing sufficient hidden pressure to disturb a sensitive person.

Contrary to the behavior of symmetrical or simple goiter, lumpy or nodular goiter is hardly ever curable by mere medical measures even in its early stages and never in its later stages. It may undergo fluctuations in size, but it hardly ever disappears without treatment. It is also the type in which the use of iodine is apt to lead to the development of toxic goiter with occasional fatal outcome. Therefore, as soon as the presence of a lumpy or nodular goiter is discovered, prompt treatment is strongly recommended. If treatment is delayed the goiter almost invariably causes compression of the windpipe and the swallowing tube. Moreover, it seldom fails to cause some disturbance of health at all stages, especially in its later stages.

What is the best treatment for lumpy or nodular goiter? Until recent years, operation was the only method of treatment in the early as well as in the late stages. And even today the great majority of physicians and surgeons still recommend operation as the only means of relief. The fact that the overwhelming majority of patients persistently have refused to undergo a major operation in the early stages when the goiter is small has been almost entirely ignored by the medical profession. To overcome the opposition to early operation more active propaganda has been carried on, stressing the advantage of early operation, its greater ease and safety and better cosmetic results. This active propaganda has failed. Patients do fear operation and will not submit to the knife when the goiter is small and is causing slight discomfort.

What then should be done to solve this problem? Large lumpy goiters, especially those with definite pressure signs in the neck or chest, must be operated on without delay. Immediate operation is not necessary, however, in small goiters with slight pressure signs. In such cases, especially in young persons, good results have been obtained by means of radium treatment. Considerable experience and careful observation have led to the conclusion that in a large proportion of the early cases of lumpy or nodular nontoxic goiter with slight pressure signs, radium treatment efficiently and judiciously applied by an expert physician may bring exceedingly satisfactory results. Should radium therapy in some cases fail to produce a satisfactory result, it will not interfere with the subsequent successful removal of the goiter by operation. I am confident that every sensible person who, given a chance by nonsurgical methods first, fails to be cured, will more willingly submit to operation if it is imperative.

When the goiter has been removed and the thyroid disturbance has been corrected by dietetic, hygienic and medicinal measures, radium, high voltage x-ray treatment or operation, the patient should undergo periodic health examinations at least twice yearly; and should the goiter ever show signs or symptoms of recurrence, prompt treatment should be instituted Periodic health examination may entail a slight medical expenditure which many patients may wish to forego. This is false economy in dealing with the thyroid gland, for normal thyroid function is absolutely essential for carrying on successfully the battle of life in this rapidly changing and difficult world.

[Note.—In the November issue, Dr. Ginsburg will discuss the prevention and treatment of toxic goiter.]

HALLOWE'EN

When summer skies turn deepest blue
And purple haze hangs low;
When leaves are changed to brighter hue
And corn's shocked row on row,
The old folk sigh and say, "I fear
The winter will be cold this year."

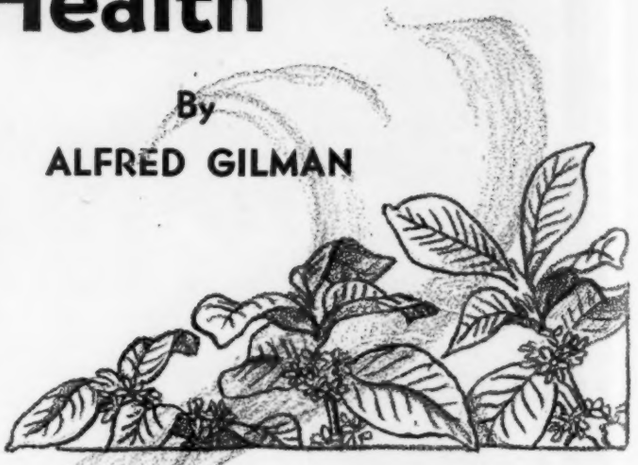
But not so fast do seasons fly
For little girls and boys;
The signs of fall lift spirits high
With thoughts of autumn joys.
Say yellow pumpkins all aglow,
"It's Hallowe'en—don't fear the snow!"

—Frances G. Klan.

Caffeine and Health

Part I

By
ALFRED GILMAN



CENTURIES ago, according to an old legend, the shepherds of a Mohammedan convent in Arabia reported to their prior that the goats which had eaten the beans of the coffee plant remained awake, jumping and gamboling about all night. This wise opportunist prepared a beverage from this plant in order that he too might remain insomnolent during the long nights of prayer in the mosque.

Similar tales tell of the discovery in China of the marvelous properties of tea leaves and of the early use of cocoa in Mexico. These three beverages, consumed in every civilized country, have one thing in common: they all contain caffeine or closely related compounds in appreciable amounts. One might think it a coincidence that these three caffeine-containing plants have such a delightful flavor and aroma that they have been chosen for human consumption; but investigation disproves this assumption. In the Amazon basin grow many species of Paullinia. Of them all, the savages have chosen the unattractive, dry fruit of Paullinia sorbilis as a basis for their drink. This plant is unique only in its content of caffeine. In the vast territory of the Sudan, the natives chew the kola nut. It is a cherished possessesion, and the medium for many commercial transactions. The kola nut contains up to 2 per cent of caffeine. The native Indians of Florida drank a concoction prepared from the plant Ilex cassine, a shrub, still a part of the flora of the southern United States, containing so much caffeine that it has been recommended as a commercial source of this drug. Maté, another caffeine beverage, is said to be consumed by approximately 15 million people in the South American territory of Brazil, Chile, Bolivia, Peru and Argentine.

Why have these widely distributed groups chosen caffeine-containing plants as a basis for their beverages? Modern science gives the answer when it points out the stimulating properties of the alkaloid caffeine. Four hundred

years ago, Sheikh Abd al-Kader expressed the same thought more poetically in his prayer to coffee:

> O coffee, thou dost disperse cares and sorrows, thou art the drink of the friends of God, thou givest health to those who labour to obtain wisdom. Only the reasonable man, he who drinks coffee, knows the truth. Coffee is our gold; where it is offered us we enjoy the company of the best people. God grant that the obstinate despisers of the beverage may never taste of its pleasures.

In addition to caffeine, such drugs as camphor, strychnine, arsenic and cocaine have, at times, been habitually consumed by some group or race of people, in order that they might enjoy the advantage of the stimulating properties of these drugs. However, except in rare instances, their use is now restricted to medicinals, taken only as stimuli when the physiologic necessity arises. This is not true of caffeine. Although fortunately a milder drug than any in the foregoing group, its tremendous consumption, its proved stimulating properties and its various other actions should cause the intelligent person to ask himself or his physician: "Is my daily use and intake of caffeine compatible with optimal health and well being?" The answer in the majority of cases will of course be in the affirmative, for most authorities agree that the use of caffeine-containing beverages in moderation is not detrimental, nor does it lead to any permanent physical injury. However, one must make certain of one's definition of "moderation." Also there are conditions in which the use of stimulants is definitely contraindicated, and there are types of people who do not react favorably to additional external stimuli.

We are therefore faced with the questions, "What is a moderate intake of caffeine, and who should avoid the use of this stimulant entirely?" In answer, the following summary of the observations of scientific investigators and the opinions of leading men in medicine and public health is presented.

If the average individual were asked whether he was stimulated by drinking a caffeine-containing beverage the answer, in all probability, would be "no." If the same question were asked concerning alcohol the answer in most instances would be "yes." Yet according to modern science each of these answers is incorrect, for the unrecognized action of caffeine is an intensification of our normal responses, and we do not notice the fact that our entire physiologic being is pitched to a higher tune. Alcohol, on the other hand, is in reality a depressant of the central nervous system, acting first on the very highest centers. Thus the initial effect of this drug is to depress inhibitions, leading to a type of behavior falsely classified as "stimulated." If the extreme action of these two drugs is studied their respective stimulating and depressing properties immediately become apparent. The effect of a toxic dose of caffeine would be convulsions due to an excessive stimulation of the central nervous system, whereas the final effect of alcohol would be unconsciousness as a result of central depression.

THEREFORE in estimating an individual's reaction to caffeine as a means toward arriving at a moderate intake, one must bear in mind the fact that physiologic stimulation, unless truly excessive, may well go unrecognized. Furthermore, a depressant is commonly given the misnomer of a stimulant.

Scientific evidence of the stimulating action of caffeine is so convincing and has been obtained by so many competent investigators that this effect of the drug is now an accepted fact. It is interesting to review the general technic of such experiments. As most caffeine-containing beverages were designed to yield practical information, use was made of them rather than of the drug itself, since it is in the beverage form that caffeine is usually consumed. In such instances, coffee has been used almost exclusively as the source of caffeine.

There are two disadvantages which must be overcome, however, in studies of this type: 1. It must be shown that it is the caffeine and not other compounds in the coffee that endows it with its stimulating properties. 2. Experimental subjects, drinking coffee, suspecting that a certain type of behavior is expected of them, are inclined to react accordingly, despite their sincere efforts to be purely objective. To overcome these difficulties many scientists make use of decaffeinated coffee. They divide their experiments into three parts and make observations on the effect on their subjects of (1) ordinary coffee, (2) decaffeinated coffee and (3) decaffeinated coffee plus caffeine. The results of groups 1 and 3 will of course be the same. By comparing them with group 2, one can learn the specific effect of caffeine in coffee. Thus, the first objection listed is overcome. What is more, the subjects are kept in ignorance of which beverage they are receiving. In this manner their behavior is in no way influenced, and accurate results are obtained.

AN ILLUSTRATION of this type of study is a recent investigation by Drs. Horst and Jenkins. As a measure of the stimulating effect of caffeine, they determined the time it took normal young men to react to a given stimulus. They found that after drinking coffee or decaffeinated coffee plus caffeine, subjects reacted more quickly, the decrease in time for their reactions amounting to from 2 to 6 per cent. After their subjects drank decaffeinated coffee no difference could be observed from their normal response. Sometimes this stimulating effect of coffee could be observed twenty-five hours later. At other times, the day after taking the drug the efficiency of the subjects was impaired. This is an example of one of the fundamental laws of pharmacology, namely, that every stimulation is followed by a depression, although some investigators deny that there is any depression following caffeine stimulation. In an investigation made by Hollingsworth the response of the subjects taking decaffeinated coffee remained constant day after day.

Innumerable investigations of this type could be cited. In addition there are experiments which prove that more muscular work can be accomplished after the ingestion of caffeine, as exemplified by the work of Schirlitz and of Hyde, Root and Curl. This result is obtained probably because the sense of fatigue is less marked, not because the muscles doing the work are any more efficient.

The action of caffeine on the nervous system has been summarized briefly by Cushny as a brightening of the intellectual faculties and an increased capacity for mental and physical work. This action of caffeine is valuable in the practice of medicine, since it is used to overcome toxic effects of the depressants, such as alcohol, morphine and the barbiturates. In cases of poisoning from such drugs the administration of strong black coffee is one of the most useful procedures.

Although the medical value of the stimulating action of caffeine is an undisputed one the question arises as to the effect of such an active stimulant in the daily diet. Such a wide range of opinion has been expressed on this subject that it would be folly to accept the statement of any single authority.

Professors McCollum and Simmonds of Johns Hopkins University in their book "Food, Nutrition and Health" might possibly be accused of being overcautious in their warnings against caffeine beverages. All their statements are scientifically sound, however, and one must remember that the objective of their work is not to determine how much a body can be abused

and not show ill effects but rather to define the optimal course in dietary habits:

> The habit of using any of these drugs, from tea and coffee to the opium alkaloids, is brought about by a desire to escape unpleasant sensations of one kind or another. . . . Some may think it unjust to mention tea and coffee as being in the same class as other drugs, but that is where they belong. Yet it is true that neither is degrading in its effects as are the opium alkaloids, cocaine and other more powerful habit-forming drugs. Tea and coffee are certainly as little harmful as any in the list to which mankind is addicted. To condemn these beverages unconditionally as poisons to be shunned in the interests of health and efficiency is to place one's self in the faddist class. Common observation teaches us that many persons drink one or the other for many years and reach a ripe old age without apparent ill effects. Yet this fact is not an argument of sufficient force to warrant our saying that it is advisable for everyone to do likewise.

Of the effects of caffeine these authors state:

> In purchasing temporary relief from the sensation of fatigue, however, one does not gain something which he otherwise would not have. Fatigue goes on just the same, and continues to do so until additional rest is taken. . . . The temporary gain in efficiency purchased in this manner leaves one jaded so that after the effects have worn off a period of inefficiency or of extra rest must follow before one returns to the normal state.
>
> Tea and coffee are, therefore, drugs with possibilities of doing harm, and should be used with discretion and an understanding of what they are. Of all the "temporary resters" they have the least tendency to degrade their addicts. If properly used certain persons may profit by their peculiar effects upon the brain.

However, in the interest of optimal nutrition and well being,

> There can be no doubt that a well person, who lives upon a diet which is satisfactory, and who takes sufficient rest, and who has never formed the habit, is better off physically without either tea or coffee. There is likewise no question but that considerable damage is being done through the abuse of these beverages.

Dr. C.-E. A. Winslow, professor of public health, Yale University, expresses himself as follows in his book "Healthy Living," addressed mainly to children:

> The fact that tea and coffee sometimes become tyrants does not mean that such drinks are necessarily bad. For grown people, particularly when they have been working hard, a cup of tea or coffee is often a good thing. Tea and coffee are what are called stimulants, that is, they make a person who is tired feel fresher and more vigorous for a time. The use of stimulants, however, is something like urging on a tired horse. Sometimes when there is just a little way farther to go, we may have to do it; but if a tired horse is driven too far, he will break down. If a tired body is forced to work too hard, it is likely to break down, too. Above all, it is very dangerous to depend on stimulants so that we grow to need them all the time, and cannot work or enjoy life without them.

Dr. H. A. Hare, author of "A Textbook of Practical Therapeutics," is much more tolerant in his attitude toward the use of caffeine as a stimulant:

> It is important to remember that it [caffeine] has no effect on brain protoplasm except to increase its functional activity. Caffeine does not produce cerebral exhaustion unless it is taken in such a manner and such large doses as to interfere with sleep, rest, and the taking of food in ordinary quantities. Hollingsworth has shown that an individual is enabled to do more mental work in a given space of time with caffeine than he is capable of doing without it, and that this increased work is not followed by depression or exhaustion. In other words, it acts as a lubricant does in machinery, increasing ability without causing exhaustion.

If the last statement of the foregoing quotation was a proved and accepted fact, then truly caffeine would be a boon to mankind, for by it the capabilities of the body could be increased at no expense. This point of view, however, is not general. *The Journal of the American Medical Association,* in a review of the actions of caffeine, contains the following statement:

> The cerebral cortex is stimulated and mental functions improve, in fact it is our best cerebral stimulant. . . . Whenever fatigue or mental inertia are in evidence, caffeine is a temporary cure of the condition, but at the expense of the organism. In other words, it calls forth the reserve power.

In an article on the actions of the constituents of coffee, Dr. R. Allers quotes the opinions of medical men:

> By the removal of the feeling of fatigue with caffeine, the effects of fatigue are concealed. Thus, much damage can result and the continuous excessive demands on the organism can effect considerable permanent damage.

From this group of opinions it should be possible to evaluate a sensible attitude toward the use of caffeine as a stimulant by the average individual. One thing is evident. It is the opinion of the majority of scientific men who have expressed themselves on the subject that sooner or later one must repay one's body by rest in return for the added hours of stimulation which one has received from this drug. The normal person turns to a caffeine stimulus after the efforts of his daily routine have depleted his supply of energy. This feeling of fatigue is indicative of the fact that his physiologic being is in need of rest. Although this feeling may be masked by the use of a stimulant, this does not necessarily mean that vitality has been restored; that could only be accomplished by relaxation. Any form of indulgence which interferes with or even masks the desire for such physiologic recuperation involves overtaxation of physical resources. If an individual stimulated in this fashion can relax sufficiently to obtain adequate rest and sleep necessary to his well being, then this use of caffeine might possibly be justified. However, it stands to reason that in many cases the constant use of caffeine interferes with the normal reconstructive processes of the body. The purely objective person, with the foreging information, should be able to steer his own course, so far as limiting himself to an intake of caffeine compatible with good health.

(To be concluded)

CARE OF CONTAGIOUS DISEASE IN THE HOME

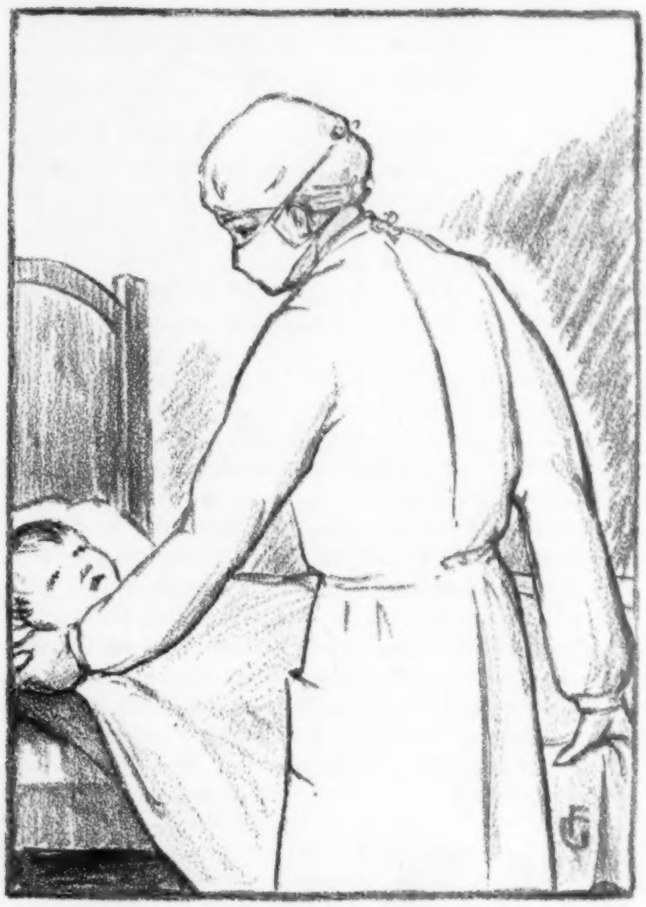
By Regina J. Woody

"MOTHERS could take care of many simple cases of contagious disease in the home as successfully as we do here in the hospital if they weren't frightened by the words 'contagious disease.'" Thus spoke the superintendent of a hospital for contagious diseases.

A good doctor, he said, was the first requirement; a general practitioner can handle such cases unless complications arise; then a specialist may be called. Before the mother embarks on the long weary weeks of nursing, the doctor himself, he added, must be "sold" on the idea of the mother caring for her child at home, for she will need all the encouragement and assistance he can give her, if she is to do the housework and the cooking, in addition to giving her patient good nursing care. If she should find that the physical care of the house and the sick child are too much for her own strength a cleaning woman, a day or so a week, or a woman to help with the laundry will often be the solution. A trained nurse is, of course, the best and most efficient person to take care of a contagious case, but when such a nurse is out of the question, because of price or distance from a medical center, then, he suggested, consider the alternative of help with the house, rather than inefficient, untrained help with the patient. He felt strongly that the mother was truly the best nurse for the child if a trained nurse was not to be had and if the child was not seriously ill enough to be sent to the hospital for special treatment.

If possible, the mother planning for the first time to nurse a contagious case should get a good book on home nursing and read it carefully, supplementing this information with the written instructions of the doctor on the case. To care for the average contagious case some few things are really necessary, and a certain knowledge of nursing and antiseptic technic is important.

Once the mother has called a doctor in whom she can place her confidence, she should turn her attention to arranging her house for the duration of the illness. First of all, a room and bath that can be cut off from the rest of the house and used for the patient alone are almost necessary in contagious cases. The fewer things there are in the patient's room, the better it is as a sickroom. A good bed, a table, a shaded lamp, a bureau, a comfortable chair and a small rug are all the furnishings that are needed.



TO CARE FOR THE AVERAGE CONTAGIOUS CASE SOME FEW THINGS ARE REALLY NECESSARY, AND A CERTAIN KNOWLEDGE OF NURSING AND ANTISEPTIC TECHNIC IS IMPORTANT.

A clinical thermometer is a necessity in the contagious sickroom, and the temperature of the patient should be taken at 7 a. m. and at 4 p. m., always before liquid, food or medicine is given. The temperature should be noted on the patient's chart. Further instruction for taking the temperature will be given by the doctor, as he may want it taken every three hours during acute illness. If the temperature is too high the physician will institute measures to check its rise.

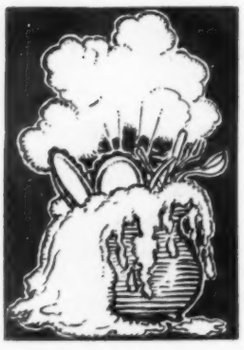
A SET of dishes should be put aside for the use of the patient. These dishes should be washed in the patient's bathroom and kept in the patient's apartment; they should never be returned to the kitchen and mixed with the regular house dishes. The food from the kitchen should be delivered to the door of the patient's room in small covered cooking pots or covered plates and should then be slipped onto the patient's own dishes, neither one being allowed to touch the other. These containers can then be returned to the kitchen. A small table near

the door will facilitate this service. This method should effectually prevent germs from getting into the family food. Some doctors allow the patient's dishes to be boiled in the kitchen before being washed with the family dishes, but unless great care is exercised, one dish or one fork from the sickroom may be overlooked and left unboiled, and then the damage of further infection is done.

Paper cups with covers are the most suitable containers for sputum. These should be dropped into a large paper bag and later placed in the furnace by the nurse herself. Paper handkerchiefs and squares of gauze or old cotton are suitable for wiping the nose and should also be placed in these paper bags.

THE mother should have white coverall aprons and caps that completely cover her hair; these should be put on immediately on entering the patient's room. These gowns had best be kept hung inside out on the door of the room. If the bathroom is cut off from the rest of the house but may be entered through a small hallway and approached before the patient's room is entered, then it is an ideal place to keep the gowns. A gauze mask may be worn, but once worn it must be discarded every time into the laundry, in order to avoid the danger of reinfection. When the mother is ready to leave the patient's room and go into the main part of the house she should take off her gown and cap and hang them either near the door or in the bathroom. Then she should wash her hands in hot soapy water, dry them thoroughly and dip them in a solution of alcohol and water, which should be kept standing in a small hand basin in the bathroom for just this purpose. A paper napkin or a bit of toilet tissue then taken in her hand before she opens the door of the room to the main part of the house will effectually prevent her hand from coming in contact with any further germs. From that time until she again enters the sickroom she can safely feel herself as free from germs as any careful doctor or nurse would be. On entering the sickroom she need do nothing but slip on her cap and gown. It is when she is leaving the patient to mingle with other people that she should be careful to acquire surgical cleanliness. A large gown kept hanging inside out in the bathroom for the doctor's use, if desired, is often greatly appreciated by him. He will also be pleased with a generous supply of clean towels, a piece of soap and a clean washbowl to be used after he has examined the patient.

ALL THE linen used by the mother and all her nightgowns, coverall aprons, gauze masks and caps should be soaked in the patient's bathtub for twenty-four hours in a solution prescribed by the doctor. Once this soaking has been



DEDICATED TO BUD

(Who Has Scarlet Fever)

By BEATRICE F. SEGAR

Good morning, little patient,
And how are you today?
Are there any dirty dishes
For me to take away?
I'll scrape them and boil them,
Then wash and wipe them dry,
And put them all away so neat,
So new meals you can try.
I'll bring your tray up stairs again
When next it's time for food,
And hope that everything you eat
Will taste so very good.

Now after you have finished,
I'll take it down once more
And do the same old thing again
That I have done before.
Oh! it's boil, boil, boil,
All the dishes that I've boiled!
When I hear the water bubble
And the steam come pouring out,
If I weren't such a lady,
How I'd yell and scream and shout.
But just so you get better
And grow stronger day by day,
I'll boil a million things for you—
Or throw them all away.

accomplished they may be safely washed with the other family laundry without fear of infection. Putting the patient's soiled clothing to soak in the bathub eliminates the necessity for a hamper in the patient's room, and but few homes are equipped for safe soaking of infected linen in the usual laundry tubs. In contagious cases fresh bed linen and nightgowns should be brought in from the regular supply closet and not kept in the room, as otherwise, when the patient gets well, they will all have to be taken from his room, soaked in disinfectant and again laundered before they may be safely used.

Toys with which the child was actually playing when taken ill should be stored in the sickroom closet for use during convalescence. Everything else movable should be taken from the room and washed with soap and water, dried in the sun and then packed away until the child is well. Any toys that the patient has actually handled during a contagious disease should be considered infectious and should either be destroyed or donated to a hospital to be used by children in the contagious ward. Small inexpensive toys are most acceptable playthings during convalescence; and as they are not costly they do not involve much loss if they must later be discarded.

A mother is often astonished to find that food plays an important part in the nursing care of the sick child. One Sunday noon I saw ten little scarlet fever convalescents between the ages of 3 and 6 years cheerfully lying on their sides in their cribs in the hospital and busily spooning great bites of finely cut roast chicken, gravy, mashed potatoes and squash into themselves. At one time they may all have been very ill, but hardly one looked even sick then. Their mugs of milk were drunk with gusto, and as the attendant nurse slipped the square of ice-cream from its wax-paper wrappings onto each little patient's plate, such a hearty yell of appreciation and delight rose as to make all the visitors laugh aloud.

THE mother, then, must be prepared for this appetite, and though gruels, poached eggs and custards may be necessary fare for a while, she should remember that hospital trays for the average patient feature good nourishing foods, such as meat, potatoes, vegetables and hot puddings or ice-cream. Ordinarily it is quite unnecessary to cook two distinct meals, one for the family and one for the patient, as so many mothers feel they must do if they are to do justice to the sick child. A few words from the doctor will establish the length of time a light diet is honestly necessary. More than one physician can testify that a light diet, persisted in too long by an overanxious mother, has actually retarded convalescence. No child can grow strong and put on weight unless he has nourishing food with which to do so. Therefore, once the doctor gives permission for normal diet, the mother may forget her fears and give the child nourishing foods selected directly from the regular house menus.

The mother on a contagious case should arrange to take at least four hours off duty every other day, getting her husband or an intelligent friend to relieve her. Where quarantine regulations permit she should actually leave the house but should not shop, visit or go to the theater. If she has cleaned up properly before leaving the patient's bathroom and if she wears clothes which she has not worn in the patient's room, she need not fear that she will expose any one to contagion. Doctors and nurses consistently come and go from contagious patients, and they do not spread disease. Merely for the sake of appearances the mother nursing a patient with a contagious disease should not teach Sunday school or visit friends with small children. If she has taken the proper precautions, there is no danger that she will spread the disease; but in the eyes of the lay public and of all those not so well established in the true knowledge of contagion as she herself is, she would seem to be exposing other people's children quite unfairly.

THOUGH it is true that every communicable disease is potentially a dangerous one, with early detection, isolation and careful nursing many cases may quite safely be nursed in the home. Nevertheless, to be fair to the rest of the family, the husband, as well as the other children, the mother should make every effort to treat her sick child from an advanced medical point of view. The fewer diseases children have, the better are their chances for a healthy, happy life. No child should ever be exposed to a communicable disease "because he will probably get it sometime, and the sooner it is over the better." This assumption is not true, and such an attitude should never be countenanced. The proper precautions and careful nursing may save the child from illness and the neighborhood from an epidemic.

Although in many cases the mother can care for her child's contagious diseases at home, she should remember, in so doing, that a good doctor must be in charge of the patient and that she herself must render implicit obedience to the things he asks. Medicine has made great strides forward in the past years, and the nursing care of contagious diseases, as now dictated by the average doctor, is safe for the little patient in the home and equally safe in preventing his brothers and sisters from getting the same disease, unless previous exposure has already given it to them. Therefore, though the contagious disease is still a fearsome thing, some of its terrors have been dissipated by medical science, and a cheerful outcome is now not only to be anticipated but to be expected when a good doctor and a good nurse work together on the case.

The Physician in Literature

By WINGATE M. JOHNSON

A WELL KNOWN editor once said to me that "very few doctors seem to know how to write." This chance remark served as the spark for kindling an idea, which had long been smoldering in my subconscious mind, to investigate the physician in literature, first as a character but chiefly as a writer.

Some of the earliest references to the physician are none too flattering. For example, in the second book of Chronicles we are told that "Asa in the thirty and ninth year of his reign was diseased in his feet, until his disease was exceeding great: yet in his disease he sought not to the Lord, but to the physicians. And Asa slept with his fathers, and died in the one and fortieth year of his reign."

Greek mythology is more complimentary to Aesculapius, the Greek god of medicine. He was probably a real being, deified after his death by the traditions that grew up around him. We are told that Pluto complained to Zeus that the population of Hades was being kept down by the skilful ministrations of Aesculapius on earth, so Zeus obligingly slew him with a thunderbolt.

More than twenty-four centuries ago Plato said of doctors what has been said every day since then, "They do certainly give very strange and new-fangled names to diseases." However, he also paid a compliment to the real doctor, when he made Socrates ask one of his audience, "Is the physician . . . a healer of the sick or a maker of money? And remember that I am now speaking of the true physician." "A healer of the sick," is the reply.

OLIVER WENDELL HOLMES

A sixteenth century version of an old Latin epigram is, I fear, only too often true today:

Three faces the Physition hath:
First as an Angell he
When he is sought; next when he helps,
A God he seems to be;
And last of all, when he hath made
The sicke, diseased, well
And asks his guerdon, then he seems
An oughly Fiend of Hell.

Readers of Chaucer will remember that one of the Canterbury pilgrims most vividly described was a "Doctor of Physick."

IN SHAKESPEARE'S plays the doctors were nearly always admirable men. Shakespeare himself possessed an insight into human nature that any modern psychiatrist might envy. Dr. George Price has written a fascinating essay entitled "Shakespeare as a Neuropsychiatrist."

Charles Dickens made coarse caricatures of his doctors. Wordsworth, for some reason, must have cherished a venomous hatred of the medical profession. Witness two verses from "A Poet's Epitaph":

Physician art thou? one, all eyes,
Philosopher! a fingering slave,
One that would peep and botanize
Upon his mother's grave?

Wrapt closely in thy sensual fleece,
O turn aside,—and take, I pray,
That he below may rest in peace,
Thy ever-dwindling soul, away!

Wordsworth evidently shared an idea common to this day, that physicians must be cold blooded and hard hearted because they have to dissect human bodies to learn their structure and because they sacrifice a few laboratory animals in order to save countless human lives.

In George Eliot's "Middlemarch" the finest character is a physician, Lydgate, who unwisely marries a social-climbing butterfly and in the end, because of her incessant nagging, sacrifices his professional ideals to Mammon. The author says "Middlemarch" is "a story of provincial life." On the flyleaf of my copy I have written, "An earlier 'Main Street.'" Its plot is so strikingly similar to Sinclair Lewis' great success that I have often wondered if he, perhaps subcon-

sciously, was not influenced by George Eliot's book.

One of the most beautiful stories in literature is "A Doctor of the Old School" in Ian Maclaren's "Beside the Bonnie Brier Bush." Any one who can read the account of Dr. MacLure's all night fight for the life of Saunders without a thrill, or of the old doctor's death without a tear, is cold blooded indeed.

Doctors take leading parts in a number of modern novels. Perhaps the best known is Sinclair Lewis' "Arrowsmith." This faithfully portrays many of the shortcomings of medical men, but it may be classed as the "Uncle Tom's Cabin" type of literature in that extreme cases are portrayed as typical. It will be remembered that the husband of the heroine of "Main Street" is also a doctor. Since Mr. Lewis' father was a country doctor and since a brother followed the same path, it is but natural that he should be interested in that profession.

A most interesting book is "Doctor Serocold," written by a doctor's daughter, Helen Ashton. It is devoted to one day's work of an English physician.

It would not do to slight Bernard Shaw, whose "Doctor's Dilemma" contains an unbelievable amount of ignorance, misinformation and falsification of the medical profession.

As an antidote to the unkind things said about the medical profession, I like to read and reread Robert Louis Stevenson's famous tribute to the physician:

> There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilzation; and when that stage of man is done with, and only to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage.

Of physicians who have written on nonmedical subjects one of the earliest was "the beloved physician" who gave us the Gospel of Luke and the Acts of the Apostles. He was a Greek physician, born in Antioch, and as the companion of Paul on at least two of his missionary journeys may justly be called the first medical missionary.

The distinction of being "the father of English prose" has been given, indirectly, to a French physician, Jean de Bourgoyne, who in the early part of the fourteenth century wrote in French an account of the travels of Sir John de Mandeville, an imaginary character. The hoax was accepted as genuine and was translated into English about 1377.

The great Rabelais (1483-1533), of whom one critic says that "he is conceded to be perhaps the most learned man of whom we have a record" and that "it is no excessive praise to say that French literature is more indebted to Rabelais than English literature is to Shakespeare," was a successful physician. His fame rests on his one book, "Pantagruel," of which sixty editions were printed in thirty years.

Sir Thomas Browne (1605-1682), author of the "Religio Medici," truly one of the world's classics, was a general practitioner throughout his long life. The book was not intended for publication but, he tells us, was "composed at leisurable hours for his private exercise and satisfaction." After the manuscript had been lent to his friends and "by transcription successively corrupted," it was printed anonymously in 1642. It attracted so much attention that it was soon reprinted, and so Browne felt compelled to issue "a full and intended copy," also anonymously. Indeed, he never did put his name to the book and apparently never realized its value.

A copy of the book fell into Dr. Osler's hands early in his life and was his constant companion ever afterward. At his request, it was buried with him. It probably influenced his thinking more than any other book except the Bible. The fact that Sir Thomas wrote his masterpiece before he was 30 years old doubtless had much to do with Osler's "harmless obsession" that the best work of the world is done by men under 40.

John Locke (1632-1704), the great English philosopher, was a physician of no mean ability and left behind a number of medical papers.

WARWICK DEEPING

ROBERT BRIDGES

His greatest work, of course, is his "Essay Concerning Human Understanding." He anticipated by a century Thomas Jefferson's famous falsehood when he wrote, "All men are naturally in a state of freedom, also of equality."

Henry Vaughan (1621-1693), one of the best known of the metaphysical poets, was a Welsh physician.

John Arbuthnot (1667-1735) was Queen Anne's personal physician, and Dr. Samuel Johnson said that, of the eminent writers of her reign, "I consider Arbuthnot the first man among them." He was an excellent physician, a man of deep learning, and of much humor. In the epilogue to his famous satires, entitled "An Epistle to Dr. Arbuthnot," Alexander Pope pays high tribute to his qualities as a friend and as a physician. His famous satire, "The History of John Bull," gave that cognomen to Britain.

OLIVER GOLDSMITH (1728-1774) was a physician, although a poor one. One of his friends advised him to prescribe only for his enemies. Macaulay says that in accordance with this advice Goldsmith undertook to treat himself and soon passed beyond the reach of real doctors. It is said that Goldsmith's famous "Vicar of Wakefield" was sold by Dr. Samuel Johnson to a publisher for $300 to pay the author's landlady, who had imprisoned him for debt. His "Natural History," however, sold for $4,000 although, according to Dr. Johnson, "Goldsmith's knowledge of zoology was just sufficient to enable him to distinguish between a horse and a cow." Perhaps the best characterization of him was also by his great friend, "No man was more foolish when he had not a pen in his hand, or more wise when he had." The same idea was expressed by David Garrick in an impromptu epitaph, years before Goldsmith died:

Here lies Nolly Goldsmith, for shortness called Noll,
Who wrote like an angel and talked like poor poll.

ACCORDING to Sir Walter Scott, Tobias Smollett (1721-1771), "the founder of the satirical novel," as surgeon's mate on a British war vessel acquired "such intimate knowledge of the nautical world as enabled him to describe sailors with such truth and vivacity that, whoever has since undertaken the same task, has seemed to copy Smollett rather than nature." His best known novels are "Humphrey Clinker," "Roderick Random" and "Peregrine Pickle." He also wrote a popular "History of England" and was, for a time, editor of the *Critical Review,* the *British Magazine,* and the *Briton.*

Mark Akenside (1721-1770), author of "The Pleasures of the Imagination," was a medical man of highest rank, as shown by his selection as chief physician to St. Thomas' Hospital in 1759.

The brilliant John Keats (1795-1821), who died in what should have been the morning of his career, showed such promise while attached to Guy's Hospital at London that he attracted the attention of the famous Sir Astley Cooper. Of him, Henry Van Dyke says that his slender volume of verse will never perish from the earth, for he was "the poet of immortal youth."

Jean Paul Marat (1743-1793), the bloodthirstiest leader of the French Revolution, whose vitriolic pen wielded a great influence in those terrible times, was a physician. His professional skill was so highly regarded that before Charles X of France ascended the throne he made him physician to his guards "because of his good and moral life and of his knowledge and experience in the art of medicine."

Schiller (1759-1805), a dramatist and poet of whom Germany is justly proud, was in his young manhood a regimental surgeon. Of him it is said that "he is to this day the most read of the great writers of Germany."

Charles Lever (1806-1872), the Irish novelist whose best known work, "Charles O'Malley," is said to contain a better description of the battle of Waterloo than the more famous one by Victor Hugo, was a successful physician. His novels deserve a wider fame.

Dr. John Brown (1810-1882), author of "Rab and His Friends," "Our Dogs" and other delightful sketches, was the famous son of another famous physician. His writing was done in the leisure hours he could wrest from a long life of active practice. Both father and son were graduates of the University of Edinburgh.

Probably the best known American physician of letters is Oliver Wendell Holmes (1809-1894), whose "Autocrat of the Breakfast Table" did much to establish the fame of the *Atlantic*

Monthly in the infancy of that great magazine. Osler says of him that he was "the most successful combination which the world has ever seen of the physician and the man of letters." He was professsor of anatomy at Harvard for nearly forty years and was the perpetual poet of his class. He anticipated the work of Semmelweiss on the contagiousness of childbed fever; and when his conclusions were challenged by the standpat authorities of his day, his ability to write stood him in good stead. Witness this paragraph from his reply:

> They (medical students) naturally have faith in their instructors, turning to them for truth, and taking what they may choose to give; babies in knowledge, not yet able to tell the breast from the bottle, pumping away for the milk of truth at all that offers, were it nothing better than a professor's shrivelled forefinger.

THE range of his genius is shown by "The Deacon's One Hoss Shay" and "The Chambered Nautilus," by the "Breakfast Table" series and his medical essays, all different, yet all classics.

S. Weir Mitchell (1829-1914), like Oliver Wendell Holmes, was famous both as a doctor and as a literary man. His medical reputation, however, rests on a more secure foundation than his literary fame while the reverse is true of Holmes. "Hugh Wynne" is Mitchell's best known novel. In the field of medicine he specialized in the treatment of nervous and mental diseases, and the Weir Mitchell rest cure is known all over the world. The story is told that he once went incognito to a prominent German nerve specialist as a patient and was advised to "return to America and go to a man in Philadelphia named Weir Mitchell."

"The Story of My Life" by J. Marion Sims (1813-1883) is the only autobiography I have ever read that did not lessen to some degree my respect for the writer. Dr. Sims is recognized throughout the medical world as the founder of the modern surgical treatment of the diseases of women, and his surgical reputation far overshadows his modest claim to literary recognition, which is based on this one book, written, he tells his readers, to please a little sick girl. It is unfortunate that the book is now out of print for it is a masterpiece of lucid English besides being a model for others who think their own lives worth recording.

The "Selected Papers and Addresses" of Dr. J. Chalmers da Costa, for twenty-five years professor of surgery at Jefferson Medical College, is a veritable feast of information served in terse, vigorous English, liberally sprinkled with sparkling epigrams.

Sir William Osler (1849-1919) is perhaps best known to the laity through the cruelly unjust libel perpetrated on him by yellow journalism at its worst, which claimed that he advocated chloroforming all men past 60. As professor of medicine at Johns Hopkins Medical School from its founding until he was called to a similar chair at Oxford University, he was a mighty influence in putting that school and the Hopkins Hospital in the forefront of the medical army. He wrote the most popular practice of medicine ever published and made numerous contributions to medical journals. His claim to literary fame is based chiefly on two books, "Aequanimitas and Other Addresses" and "An Alabama Student and Other Biographical Essays.". A high tribute from an unexpected source was paid him in a recent novel whose author gave a volume of Osler's essays as an example of exquisite English prose which would appeal to a reader of superior intelligence but would be wasted on a mediocre intellect.

Robert Bridges (1844-1930), poet laureate of England from 1913 until his death in 1930, was an eminent physician for many years. He never attained great popularity but "was essentially a scholar's poet."

Sir Arthur Conan Doyle (1859-1930), the creator of Sherlock Holmes, praticed medicine for eight years, until his writings made him famous.

AMONG living writers there are a number of doctors. One of the best known is Axel Munthe, whose "Story of San Michele" was a best seller for two years. It is hard to classify, for it contains some autobiography, some philosophy, some essays and, I am persuaded, some pure fiction, but it is the most delightful reading imaginable. An earlier book, "Memories and Vagaries," recently published in an effort to capitalize the reputation of the other, will prove a disappointment to most of those who revelled in Munthe's masterpiece.

Arthur Schnitzler, the Austrian novelist and dramatist, gave up a brilliant career as a throat specialist to write.

Dr. John R. Oliver of Baltimore is himself as interesting as any of his literary characters. After serving for several years as an Episcopal rector, he studied medicine in Austria and soon after graduation entered the medical corps of the Austrian army. He has found time while practicing psychiatry in Baltimore to take a Ph.D. degree in Greek at Johns Hopkins and to teach in that institution and at the University of Maryland besides writing half a dozen books. Recently he has been reinstated in the ministry and has charge of a little church just outside the city. His first novel, "Fear," is one of the most helpful books I know for an individual who is nervous, unduly anxious or mentally depressed. His second book, "Victim and Victor," is also a novel, while his third, "Four-Square," is a sort of autobiography. His last three books do not measure up to the standard of the first ones.

Dr. Harvey Cushing, professor of surgery at Harvard, won the Pulitzer prize in 1925 for his "Life of Sir William *(Continued on page 950)*

Speech Problems and Speech Care

By BRYNG BRYNGELSON

MANY children pass through a period of irregular or defective speech during early childhood. The majority of children, however, inherit both a stable central speech organization and a well formed peripheral speech mechanism which guarantee a clear, distinct and uninterrupted articulation. Obviously, any child runs the risk of having his good speech impaired by accident and disease. These factors are more likely to affect an already inherently weak speech mechanism than a strong stable speech set-up.

The prevalent belief that a child is expected to go through a period of poor speech during a certain period of development has misled parents into a policy of hoping and waiting for the termination of this disturbing period of poor speech. If a child has not established an intelligible speech pattern by the age of 4, it is time to consider the matter seriously and to have a thorough examination of the child in some reputable speech clinic. For example, many adult stutterers encountered in college state that the reason no treatment has been afforded them is that all through the years their parents have lived in the hope that the stutter would be outgrown. It is true that many of the milder types of speech disorders tend to subside during the elementary school life of a child. When this occurs, it is ascribed to the fact that through a maturation, or growth process, the brain has been able to establish a well defined speech pattern. But to hope that the more severe types, such as confirmed stuttering, will take this course is absurd, for the percentage of stutterers among adults is about the same as the percentage in the lower grades of our school systems.

The White House conference of a few years ago reported that more than a million school children between the ages of 5 and 18 are so defective in speech that they require remedial treatment and training. Only about 60,000 of these are now receiving the necessary corrective training and treatment. Most speech surveys indicate that a little more than 10 per cent of the population has some type of speech defect; and of this number, there are about 1,300,000 stutterers, three times as many as the blind and deaf combined. I point this out because parents usually consider their children unusual in that they suffer from a speech disorder. In clinical work it is not an uncommon experience to examine a stutterer who really believes he is the only person in the world so afflicted. This thought has a tremendous influence over the attitude these speech defectives have developed around their disorder.

Century-Allen

BY THE TIME HE IS 4 YEARS OF AGE THE CHILD SHOULD HAVE ESTABLISHED AN INTELLIGIBLE SPEECH PATTERN.

The more common types of speech disorders may be listed as follows: lisping, sound substitution, oral inaccuracy, hoarse voice and stuttering. The more uncommon types are cleft palate speech, congenital short palate speech, aphasia, too high or too low pitch, monotone and dialectal speech.

The causes of speech disorders can be classed as hereditary, congenital and developmental. Many of the most severe types of articulatory problems are due to an inherent lack of growth of the central nervous system. Other articulatory speech disorders may be due to various physical anomalies of the speech organs, such as a too large or too small tongue, underslung jaw, tongue tie, cleft palate, irregular formation of dental structures, and harelip. Obstructions such as large adenoids, large tonsils, growths in the nasal passage and corns on the vocal bands can impair the speech process so as to make it deviate from the norm. Obviously, these physical conditions must be attended to by a surgeon and otolaryngologist before the child's speech can be improved through training by a speech pathologist. After the necessary surgery has been performed, the muscles that have adjusted to the obstructions through the years must be

retrained to adjust to the speech mechanism in its new form.

Another important cause of much of the retarded speech, inarticulate speech and stuttering is an interference by parents, nurses and teachers with the child's native sidedness pattern. By this I mean that each child, by hereditary stock, is predisposed to the development of speech on one side of the brain. It so happens that the hand, if allowed to act according to natural processes, will usually indicate the side of the brain on which speech is sponsored; that is, a strong, more active left half of the brain will be indicated by a right-handed choice, and vice versa for a stronger right half of the brain. In order that the speech pattern may grow and maintain its stability it is essential that it receive continuous stimulation from the corresponding hand through manipulation and use in the physical environment. The interference with this growth occurs mainly through the all too common practice of shifting the child's handedness. In some few instances the hand activities may be altered, say from left to right, with no resultant change of native sidedness in the brain. Whether a disturbance of stockbrainedness occurs depends on the stability of the inherited pattern, which is hard to determine in advance of the child's development.

It may also depend on whether the shift from side to side is partial or complete. In the majority of children who undergo some interference with their handedness there is a corresponding change taking place in the brain which results in a growth in strength and activity in the naturally nondominant side of the brain, causing a confusion or retardation of the processes responsible for reading, writing, spelling and speaking. These skills are dependent on strict one-sidedness for their fluent execution on the peripheral mechanism. It is an interesting fact that from 80 to 90 per cent of all stutterers have experienced this transfer, partial or complete, from left-handedness to right-handedness. Sometimes this interference is begun in the home and sometimes in the elementary grades at school. If a disability in speech, reading, writing or spelling is not one of the consequential effects of such tampering with native sidedness, one can often find other marks of a central character which are signs of a deep nervous derangement. Hyperactivity, fidgetiness, general nervousness, confusion in direction, slowness in silent reading, sluggish muscular movement and indecision often denote this central instability; and, from some evidence in the University of Minnesota Speech Clinic, some types of strabismus (cross eye) appear to be related to this phenomenon. This factor is now being studied.

Not unlike many other prejudices the aversion to left-handedness has been handed down through the ages from savage society. Born, I presume, of fear and ignorance, it still resides in the minds of many people. Left-handedness has too often been conceived as a sign of feeble-mindedness. Among many people it is a common belief that left-handedness is an indication of sin and degeneration. Awkwardness has been a common rationalization of this prejudice by right-handed folk. These ideas concerning left-handedness have been so firmly imbedded into our social structure as a superstition that until recently almost all school systems required every left-handed child to become right-handed. A school system calling itself modern should adopt a policy against the shifting of children's handedness and a subsequent disturbance of their native sidedness.

There are other factors which enter into this picture of brain dominance. A disturbance of the natively dominant side of the brain, and subsequent speech disorders, can come as a result of high febrile diseases, accidents or traumas of the brain areas. In diabetic coma, the dominant speech area can be upset to cause stuttering. Thumb sucking of the dominant hand, representing the natively dominant sidedness pattern in the brain, can be incident to many speech disorders. In correcting the child's thumb sucking in the early months of babyhood, parents often inhibit the free use of the hand. In so doing there is a probability of an interference with the speech pattern. This would be true if the hand which is hampered is the outward sign of the side of the brain in which patterns for speech are growing. Thus

N. Thorp-Humphreys

IF PARENTS WILL WAIT UNTIL THE STUTTERER SAYS HIS WORDS HE WILL NOT FEEL THAT PEOPLE ABOUT HIM CONSIDER HIM INCAPABLE OF KNOWING WHAT HE WANTS TO SAY

when a child, aged 12 months, is observed from the standpoint of right-handedness or left-handedness, because of an interference to inhibit thumb sucking, he may be using the hand that represents the side opposite to the actual growth processes for speech.

It may be far more important to give speech every possible chance for unimpeded development than to avoid some dental work which may or may not need to be done at the age of 8 or 9 as the result of thumb sucking. As a matter of fact, the most recent observations which have been made on this problem reveal the fact that thumb sucking itself loses its fascination for the child more quickly when no attention is given to it than when some stress is placed on it. The process is analogous to the gradual elimination of temper tantrums when the child is left alone.

THE question regarding the possibility of outgrowing stuttering is a moot one for many parents. It is difficult to reply to this query, too, because many persons who say that they have outgrown their stutter have been able only to cover it up through the concoction of various devices. Some of the most common devices are substituting words, beginning sentences with pet words or phrases, speaking either very slowly or very rapidly, and talking on residual air. The stutterer learns these so-called crutches from his social experiences with stuttering and uses them for the purpose of hiding his speech defect. Then, too, the stuttering as revealed by spasms of the speech muscles may disappear, and the nervous system may still be pathologically deranged. This derangement may be evidenced by a spelling, reading or writing disability or, as indicated earlier in this article, the stutterer may lack orientation in direction, or may appear to possess hyperactive nervous reactions. I feel quite certain that most of those individuals who are confirmed stutterers in childhood do not even reach the outgrown stage in which they are able to hide their stuttering spasms successfully. The few who are able to do so are usually found to lack facility in certain other complex skills of the organism when they reach the university level.

The child with defective speech who enters the playground for the first time is likely to be the center of disapproval in the form of mimicry, ridicule and teasing. The reason for this is that children do have a sense of humor and do see the queerness of the speech disorder. It is at this point in the child's contact with the outer world that his feelings are put to a test. If the child is sensitive to criticism he will either overreact to the group and become irritated at his playmates, or he will withdraw to a more comforting environment, usually the one provided by his parents. Either reaction, if continued, will result in the growth of a feeling of insecurity. The speech defect will be defined by the child as a handicap, a mark of inferiority, and he will struggle through the grades with this attitude toward his defect. If he possesses sufficient drive to go on to college he is usually found to possess a much disturbed personality. When this is true he needs psychologic help first of all, for it is most uncomfortable for a speech clinician in a university clinic to give aid to a student with defective speech if, in addition to his speech disorder, he has a warped personality. In such cases the first problem is to get him adjusted to the fact that he possesses a speech defect. When this has been accomplished he is ready for the psychologic and neurologic work essential for speech rehabilitation.

The usual method of handling a child who has defective sound formation is an attempt to aid the child in correct sound formation by showing him both tongue and lip positions. Not only is this method scientifically unsound but it tends to point out unwholesome speech differences in the child if it is continuously used. A speech sound is a unit made up of movements of all speech muscles functioning as a whole. We do not learn our mother tongue by first knowing the position of our speech organs in sound production but through the process of hearing sounds spoken by those about us. A child, then, who is defective in certain sounds possesses a debility either in the ear or in that part of the brain in which auditory speech patterns are recorded. Obviously, one is not attacking the source of the deficiency in speech by drilling the peripheral speech muscles. Rather, one should first be sure that the hearing mechanism of the child is intact and should then proceed to exaggerate the hearing act by stimulating the child with speech sounds. After the sound has been learned the child can practice it. Nonsense syllable drills for the tongue, lip and soft palate are helpful in limbering up the speech mechanism so it will more adequately serve the stimulus patterns emanating from the brain to the muscles.

IF PARENTS and teachers cannot help the child in this manner it would be better to exert effort to help him become accustomed to his defect until scientific speech aid can be secured.

Just as the method of showing tongue positions in an articulatory case breeds inferiority, so the method of taking the words out of the mouth of a stutterer tends to make him self conscious about his difference in speech. If parents will wait until the stutterer says his words he will not feel that people about him consider him stupid and incapable of knowing what he wants to say. Let the stutterer stutter, and let the lisper lisp. Parents should in no way avoid mentioning the defect to the child, for speaking frankly and objectively about the disorder will tend to effect a wholesome psychologic attitude in the child.

The Health of Our Navy at Sea

By
BEULAH FRANCE

OUT IN THE MIDDLE OF THE SUN FLECKED HUDSON THE HUGE HOSPITAL SHIP OF THE U. S. NAVY ROCKED GENTLY ON THE INCOMING TIDE.

OUT IN the middle of the sun flecked Hudson the huge white hospital ship of the U. S. Navy rocked gently on the incoming tide. Up and down the river as far as one could see, great gray vessels of war restlessly rode at anchor.

I had had the good fortune to receive an invitation to visit the hospital ship *Relief* for the better part of a whole day, and this accounts for my early appearance on the dock. At 9 a. m. the beautiful white motor launch which belongs to that ship tied up to take passengers. Down the plank I went and stepped happily aboard. Several sailors were making the most of each shining moment by making even more shining the flashing brass railings, even more mirror-like the highly polished rich mahogany, and even more white the seemingly spotless woodwork.

The snowy leather upholstery would never have done for the furniture of a home on shore, nor would the crisp white curtains at the cabin windows have stayed that way long except on the dustless water.

We were off. I looked about me at my fellow passengers. All were in uniform; all were men. We pulled up to the U. S. S. *Relief*. I was told to step out, and I tried my best to comply. With one foot on the platform of the big ship and the other still in the launch, I suddenly found myself being separated "amidships." The motor launch had bobbed up on a wave.

"Oh, just a moment," said a firm voice in my ear, and at the same time a firm hand grasped my elbow. "Now step right over. There you are." And there I was indeed and extremely grateful.

At the top of the long flight of steps up the side of the *Relief* I was met by my hostess, the chief nurse of the hospital ship. "Did you know," she laughingly queried, "who that was that saved you from an early morning dip?"

I replied that I only knew he was very good looking and wore more badges of honor than I had ever seen. And no wonder, for my rescuer proved to be one of the most renowned men in the navy, the former private physician to three United States presidents.

Thus was I introduced to Uncle Sam's floating hospital. As soon as I had gathered my sea legs and my wits together I began to enjoy the wonders of it all. And I learned many things, among them that the U. S. S. *Relief* is the second ship of our great navy to go by that name. The first was a converted vessel which had been used for the care of the sick and the wounded during the Spanish-American War, the Philippine Insurrection and the Boxer Rebellion in China.

THE present *Relief* was built in the Philadelphia navy yard during the years 1917-1920, at a cost of $4,355,000. It is the only unit of the fleet that has ever been especially designed, built, equipped and operated as a hospital ship. When it was launched, Dec. 23, 1919, it was christened by Mrs. William Braisted whose husband was at that time Surgeon General of the U. S. Navy.

The *Relief* accompanies the fleet on all its cruises and many of its frequent maneuvers. At all other times it lies at anchor off the breakwater in the home port, San Pedro, Calif.

There is no naval hospital, only a dispensary, on land at San Pedro. Dispensaries or clinics are maintained in all places where there are many navy families. In addition to its regular duties carried on when not in the home port, the personnel of the U. S. S. *Relief* is called on at San Pedro to take care of special examinations of patients sent to the ship by the naval dispensary.

During 1933 the daily average of patients being cared for at sea on the hospital ship alone was about 150. In addition to these, each ship

THE DOCTORS ARE ASSISTED BY MEMBERS OF THE MEDICAL CORPS, WHO HAVE ALL BEEN ESPECIALLY TRAINED.

in the fleet had its own daily quota. For each vessel has its sick-bay in charge of two medical officers, a senior and a junior doctor. Each vessel has also a highly qualified dentist.

It was my privilege, on another day, to be the guest of a commander, the senior medical officer, on one of the huge war ships. I mention this experience because it will give some idea of the care of the health in general on the high seas and not confine it to the activities of the hospital ship. Many patients, the commander told me, prefer to remain on their own ship rather than to be transferred to the *Relief*. This is natural and easy to understand. As one sailor who was laid up with chronic arthritis told me, "We know our doctors here. We've sort of grown up with 'em. I guess those on the *Relief* are O.K.; but—well, you see I feel at home here." He had been confined to bed at that time for more than three months but was slowly getting better.

EACH of the large navy vessels carries in its sick-bay about twenty-four beds in the main ward, four extras for isolation and a quiet room for two patients. The commander told me that about thirty operations had been performed aboard his ship during the past year. The operating rooms are not large, but they are conveniently arranged and well equipped. I was especially attracted to the instrument cases, which are made of metal and lined with mahogany. This wooden lining was carved to make an individual nest for each instrument in the case so that no instrument could be mislaid or lost. On the outside of the box was a carefully drawn diagram showing at a glance exactly where one should place one's hand to grasp in a hurry the instrument required. Furthermore the name of each instrument was printed in large clear letters on the diagram so that even a child, could he read, would be able to get for a doctor whatever might be needed.

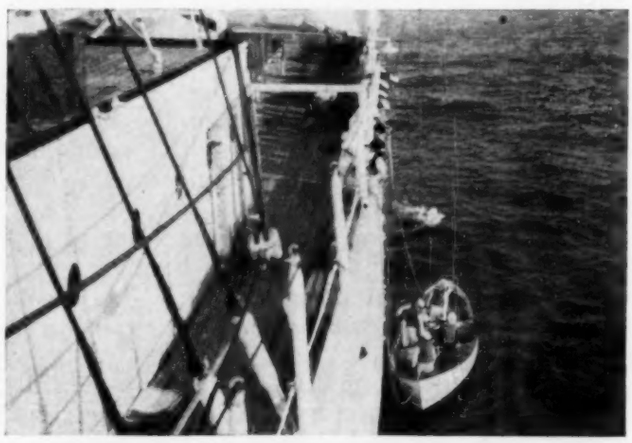
On all vessels except the *Relief*, operations must be performed without assistance from any woman, for the nurses on the hospital ship are the only women who go to sea with the navy. But this is not the serious handicap it would seem since the doctors are assisted by the members of the medical corps, who have all been especially trained. On the war vessel that I visited there were thirteen hospital corps men of various ratings. These men are all high school graduates who have been sent to one of the hospital corps training schools in Portsmouth, Va., or San Diego, Calif. Here intensive training is given in a wide variety of subjects such as First Aid and Minor Surgery, Anatomy and Physiology, Hygiene and Sanitation, Metrology, Materia Medica, Toxicology, and Bedside Nursing. These studies take at least four months; then if a man has proved himself worthy he may be put on a war vessel or on the hospital ship *Relief*.

Some of these sailors work up to high positions as petty officers through further research work and study. Not a few of them have left the service for a sufficient number of years to take all the needed college and medical work and have then returned to the navy as full-fledged physicians and surgeons. Every ship has a chief pharmacist also.

Every morning on board each ship the doctors hold office hours. During this time, men who do not feel well or those who have wounds to be dressed are seen and cared for, but at no time is the ship left without a doctor in charge to care for emergency cases.

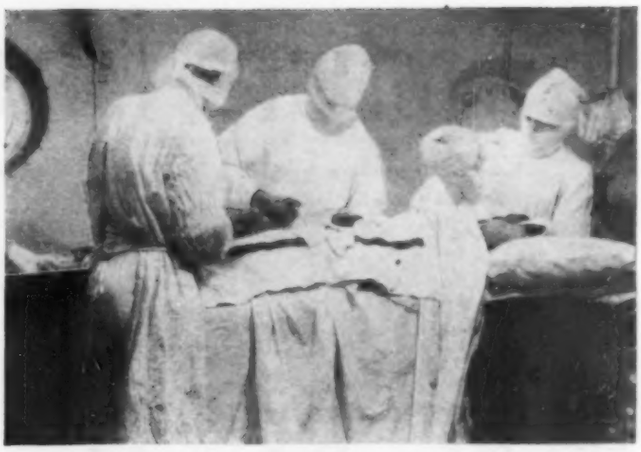
ABOUT how many patients may the doctors expect to have call on them during morning office hours on a war vessel? The commander told me that when in the tropics there might easily be eighty men who would need medical care, in addition to the many bedridden patients.

Mumps is the most frequent disease because so many lads who join the navy come from farming districts where they have not been exposed to the common contagious diseases and so have not built up any immunity.



THE "RELIEF" IS ESPECIALLY DESIGNED, BUILT, EQUIPPED AND OPERATED AS A HOSPITAL SHIP. IN THIS PICTURE, A PATIENT IS BEING TAKEN ABOARD AT SEA ON A STRETCHER.

The social diseases are prevalent to a much smaller degree than many "land-lubbers" are prone to believe and to a far smaller degree than was once true in the navy. This is attributable to two definite causes: First, since the navy is not seeking men in large numbers it can afford to pick and choose with care. Selecting in this way it secures a much higher type of young man. Second, because the young men are well educated and come from good families and because they join the navy not so much for adventure as for advancement, they are eager and anxious to maintain an unblemished record and to keep themselves healthy and clean so that there may be nothing to retard their progress. The navy in turn does all in its power to encourage and increase such ambitions.



OPERATIONS, RANGING IN SCOPE FROM THE MOST DELICATE ONES ON THE BRAIN OR THE EYE TO THE REMOVAL OF A GANGRENOUS TOE, ARE PERFORMED ON BOARD THE "RELIEF." NINE MEDICAL OFFICERS ARE INCLUDED IN THE STAFF.

ONLY the finest food is offered the sailor. It is carefully inspected by a government official and then by a medical officer before it is prepared and served. No meat is bought already ground; when hamburger steak is to be served the beef is run through the grinder less than two hours before it is cooked.

Only grade A pasteurized milk is purchased for use in the navy, and great quantities of it are used every day in many ways. Not only is the best food purchased, but menus are carefully planned so as to offer variety. Turkey and chicken are served once a week and again on all holidays. Broiled steak is a weekly treat too as are also baked beans which so many believe form the sailors' daily diet.

It is difficult, the doctor told me, to get enough calcium in the diet for the preservation of good teeth. So all bones, instead of being thrown away, are cracked and soaked in the soup kettle, for their calcium content. All the vegetables are cooked by steam to avoid loss of their valuable minerals. The cooks and the bakers, by the way, are no novices. If they have not acquired their art before joining the navy, they are required to attend the navy school for cooks and bakers. The commander pointed out one who had been a chef in a large hotel. When the doctor told me that on his ship alone 900 loaves of bread are baked every day and 210 pies for a serving it was easy to realize why the cooks would have to be trained to meet the requirements of their work.

But to return to the hospital ship *Relief* and its operating room. This room is a thing of beauty, about 20 by 50 feet, and modern in every detail. Of course all the operating tables are securely fastened to the floor. One specialist told me that during the World War he performed a delicate operation while the ship rolled 42 degrees.

Operations are performed practically every day on board the U. S. S. *Relief*. The day I was there, the surgeons were busy with three or four operations. They range in scope from the most delicate ones on the brain or the eye to the removal of a gangrenous toe. There are nine medical officers included in the staff, among them such specialists as an internist, a general surgeon, an orthopedic surgeon, a neuropsychiatrist, a urologist and an eye, ear, nose and throat doctor.

THE operating room nurse, who is a registered graduate, is also a specialist in the giving of anesthesia. Besides her there are eleven other nurses, one the chief nurse who is in charge of the nursing staff and the others all acting as supervisors in the wards where the members of the medical corps give the actual bedside care. The nurse who is in charge of the diet kitchen is a graduate dietitian.

There are special quarters for sick officers. These consist of small individual rooms curtained off from the officers' dining room. Each has its own closet and private lavatory and toilet.

The wards are devoted to different types of patients just as they are in a land hospital, but the beds are somewhat different from regulation beds. They reminded me of upper and lower berths in a Pullman sleeper. They are made in such a way as to be let down when needed but fastened up out of the way when not in use.

The isolation ward and the one for psychopathic patients are reached by crossing a narrow bridge from one of the main decks. Both were occupied at the time of my visit.

Much might be written on the care during convalescence and on the treatment of mental health, which is a matter of great importance at sea as well as on land. No mother, sister or sweetheart would ever be afraid to entrust her loved ones to Uncle Sam's care could she but see for herself how the mental and physical health of the navy's enlisted men is watched over and cared for at sea.

IS YOUR HOUSE A HOME?

By
Alma H. Jones

OFTEN EQUIPMENT THAT HELPS MAKE A HOUSE A HOME FOR CHILDREN INVOLVES THOUGHT RATHER THAN MONEY. A GOOD LOOKING, SUBSTANTIAL TABLE AND MATCHING MODERNISTIC SHELVES FOR TOYS MAY BE EASILY CONSTRUCTED BY ONE HANDY WITH TOOLS.

ALICE IN WONDERLAND could solve her own problems of misfits in her environment in a magic world. When she found herself too short to reach the key to open the door into the beautiful garden beyond, she had only to nibble the cake, the icing of which was plainly marked, "EAT ME," and she began to grow so fast that her head soon touched the ceiling. Thus easily, Alice adjusted her size to circumstance.

Not so with the child of today in a world of reality in a home unfitted for his needs. Comfort, health and educational opportunities are frequently sacrificed. Often arrangements and equipment that help to make the house a home for children are a matter of taking thought rather than a matter of spending money. Frequently, improvements may be made by the handy man or by the children themselves. Sometimes such equipment may be makeshift, or improvised in character, because of changing needs of children and the rather temporary period of use of some of the articles needed.

How can the home be made more comfortable and convenient for younger members?

No "good home" may boast that distinction unless it provides for adequate, restful sleep, which is as important as proper food. In fact, experiments show that one cannot live as long without sleep as without food. In the case of animals it has been shown that ten nursing puppies kept from sleeping died in one week, although they lived from three to four weeks without food.

FOR restful sleep, preferably, the child should have a bed by himself. The bed should be large enough to secure complete relaxation and should be in a room which is quiet and free from glaring light during sleeping hours. The mattress should be thick and comfortable with no bumps. The bed-spring should be resilient but strong enough so that it will not sag with the body weight. For this reason a coil spring is better than a mesh spring. It is well worth while to discard quickly and without regrets any spring that allows the body to assume positions that may prove detrimental to good posture, just as misfit shoes are well rid of, regardless of further wearing possibilities. Sometimes an uneven mattress may be cheaply rebuilt if it cannot be replaced. This is done by filling the depressions with cotton batting or home grown washed wool and recovering the whole.

According to furniture salesmen there is a growing appreciation of good springs and mattresses. This is a hopeful trend and one that should carry over in providing health-giving

sleep to children. This may go so far as to improvise the bedstead for temporary use in the manner of our pioneer fathers if there is extreme need for economy.

Next to a good bed, there is no article of furniture more important from the standpoint of comfort and of posture than a chair which fits the child.

Throughout the growing period there should be at least one chair fitted to the child's limitations in stature. The most comfortable chair for a child, like that for an adult, is of such height that the feet rest flat on the floor when the child is sitting erect with back supported. It has a seat slightly hollowed out like a saddle and deep enough to support the child's legs from the thigh to the knee. The seat is slightly higher in front, and curved to conform comfortably to the body. The back is supported just below the shoulder blades.

The effects of the child's chair on behavior and good workmanship are just beginning to be appreciated. Fortunately, educators are attacking the problem. Up-to-date schools are providing hygienic chairs for children.

It is hoped that before long one may purchase well designed chairs for children as easily and cheaply as well fitted clothing is now provided in proper size for satisfactory service. Frequently, a chair already in the home may be "rebuilt" to serve for the temporary use of a growing child. Almost any modification is acceptable, if it prevents a child from slumping down or sitting cross-legged in a chair too high to allow his feet to touch the floor.

For example, a chair which is too high may have the legs cut down, making the front of the seat slightly higher than the back; a chair which is too low may have the legs pegged up, or a seat pad may provide the extra height. A chair which "leans back too far" may have a pad adjusted, so that support will be given when the sitting posture is correct; that is, when the ear and points of shoulder and hips are in a straight line.

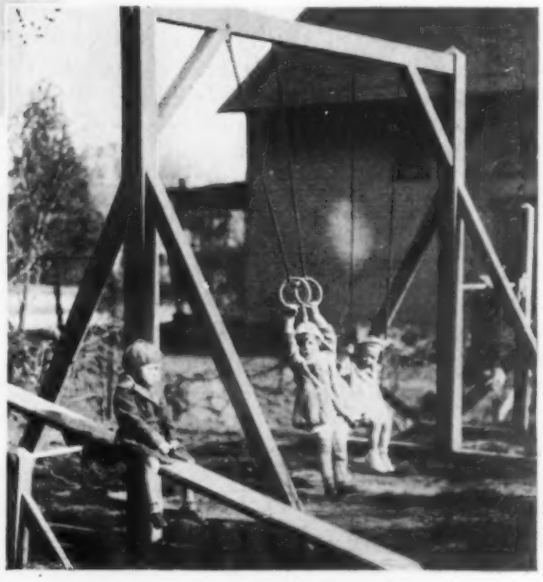
A table adjusted to the child's height for eating and for work and play helps him to grow in self dependence and adds to happiness in everyday living. The measure for correct table height can easily be procured by using a yardstick. When the child is seated correctly, with his feet flat on the floor, the distance from the floor to the bent elbow is the correct table height for working efficiency and good posture. Flat chests and slumped, uneven shoulders may be the price paid for tables and school desks unfitted to the child's size. These abnormalities may easily be reflected also in impaired health.

As in the case of chairs, table legs can be sawed off or pegged up as the situation demands.

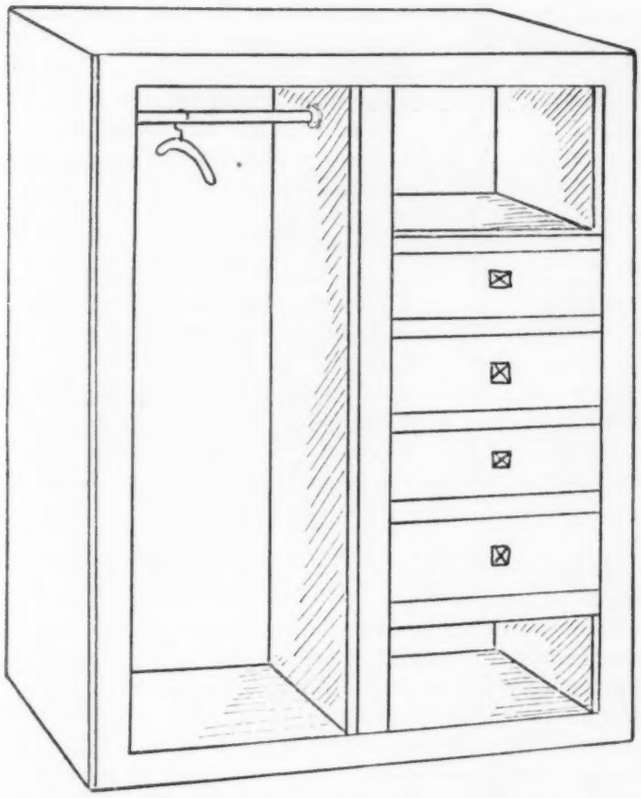
Good looking, substantial tables of a semimodernistic style may be easily con-

THIS WARDROBE WAS MADE FROM A WALNUT LOW-BOY RADIO CASE. TWO DRAWERS WERE MADE TO HOLD THE CHILD'S STOCKINGS AND UNDERWEAR, AND SPACE WAS LEFT UNDER THE DRAWERS FOR SHOES, WHILE THE SECTION AT THE TOP WAS UTILIZED FOR HATS.

TODAY LITTLE MISS MUFFET SITS ON A CHAIR ADJUSTED TO HER SIZE. SUCH A CHAIR IS FAVORABLE NOT ONLY TO GOOD POSTURE BUT ALSO TO HER WORK-PLAY ACTIVITIES.



THIS OUTDOOR PLAYGROUND EQUIPMENT (MADE FROM DIRECTIONS GIVEN IN FOLDER NO. 2, THE CHILDREN'S BUREAU, WASHINGTON, D. C.) IS AN AID IN THE DEVELOPMENT OF GROWING CHILDREN.



A RADIO BOX AND FOUR TOKAY GRAPE BOXES ARE USED TO MAKE THIS WARDROBE. DRIED-FRUIT BOXES MAKE SATISFACTORY DRAWERS. SPACE IS LEFT AT BOTTOM FOR SHOES AND AT TOP FOR HATS. CLOTHES AND A LAUNDRY-BAG MAY HANG ON THE POLE. FOR BETTER APPEARANCE AND STRENGTH THE WARDROBE IS COVERED WITH WALL BOARD, PAINTED TO MATCH THE WALLS OF THE ROOM; A BRIGHTER COLOR IS USED INSIDE. CASTERS ON EACH CORNER OF THE WARDROBE AND A CRASH CURTAIN WILL ADD THE FINISHING TOUCHES.

structed from new planed lumber by one handy with tools. Matching modernistic shelves for toys may be adjustable, so that the various sections may be arranged for contents as desired.

TABLES in many styles may be purchased easily and at almost any price. An emergency or play table may be made by using a strong prune or tokay grape box as a foundation. Lumber, 1 by 2 inches, is used for the legs and to reinforce the foundation. For the table top, 10-inch boards are cut to project about 3 inches over the edges of the box foundation on both sides and ends. If desired the top may be covered with linoleum to give a good working surface. The table is sandpapered and painted a wood brown or other color which is attractive but not conspicuous. In making play house tables of this type, children often use the cleats that bind bundles of shingles together, sandpaper them smooth and use crate lumber for the table top, so that no expense whatever is involved. When care is taken in cutting the legs exactly square and of even length the table is surprisingly stable and usable.

Washing and bathing arrangements suitable in location and height are further aids in developing desirable habits, particularly personal care and self dependence. Imagine the situation of children in trying to use adult equipment which is for them of giant proportions. The water trickles from wrists to elbows and soaks their sleeves. Small wonder that the dirt is often wiped off on the towels, if removed at all. Then, too, there are difficulties in "scaling a wall" to reach garments on hooks too high. Possibly children should not be treated too harshly for failure to hang up their clothing. Some forethought on the part of adults will save the day for the children and avoid many bugbears for those who care for them.

EXAMPLES of toilet equipment, whatever its kind, which should be in every home are a wash basin or lavatory which the child can reach easily; a low towel bar or hooks, and own towels and wash-cloths, plainly marked or located, with celluloid or brass rings attached for convenience in hanging up; a mirror in which the child can see without standing on a support, and a convenient place to clean the teeth, with tooth-brush and other supplies within easy reach.

It is surprising, as many parents have testified, how much these simple conveniences will motivate "washing-up" and teeth cleaning.

The problem of extra plumbing equipment of child's size, such as basins or toilets, is one which cannot be considered in the average home because of excessive cost. In the case of the modern bathroom, a stool having legs of from 4 to 6 inches in height, or steps, will enable children to use adult bathroom equipment. Such a stool may easily be made of a substantial 1-inch board with rounded corners. Doorstop legs are attached, or spool legs may be bolted on, as many spools being used as are demanded for the child's size. Such a stool should always be on hand in the adult bathroom used by smaller children. Steps may be purchased, if desired.

In the case of the home without modern plumbing many simple adjustments are possible. For example, in one home a kitchen stool with sawed-off legs was reserved as a stand for the children's special wash-basin. A covered kitchen garbage can, with pedal attachments for opening the lid, was placed beside the stool and basin. "All the conveniences of home" was not a jest to the children who were the proud possessors.

Wardrobe and dresser space which is convenient and accessible encourages neatness and order as well as care of property. Frequently one may observe a home, architecturally beautiful, equipped with adequate and artistic furnishings for adults but hopelessly lacking as far as children's equipment is concerned. In one such home the child of 10 years had to go across the hall to get his clothing from his parents' room. Moreover, in addition to other misfits in arrangements his room had a small rickety table

and a chair too high for comfort. Low hooks and shelves in closets and adequate drawer space add to the joy of child life more than is often suspected. How frequently disorder in the care of clothing is due to lack of such facilities, one may safely venture to guess.

In case the family does not find it feasible to purchase child furniture, which, unfortunately is comparatively expensive, there are other possibilities if the handy man can be pressed into service. Since the advent of desk radio sets, there are many radio cases of the high-boy or low-boy type available at almost no expense at all. The radio case, frequently of fine wood and excellent finish, stripped of its insides, makes an excellent wardrobe for a child. One such wardrobe was made from a walnut low-boy radio case. Two drawers were made of three-ply lumber for the child's stockings and underwear. A space was left under the drawers for shoes, and the space on top of the drawers was used for hats. This piece of furniture was quite pleasing in appearance as well as useful.

ANOTHER wardrobe of home construction was made of planed boards, 12 by 36 by 42 inches. The top board projected slightly over the sides of the wardrobe. There was a shelf space at the bottom and at the top for use as just indicated. The intervening space was used for a pole on which were hung the child's garments. A curtain of crash hung on the front by rings was used to protect the clothing and to give a more pleasing effect in the room. The dimensions of such a clothes closet would, of course, be altered in accordance with the size of the child using it. The exterior should be painted to match the woodwork or other furnishings of the room.

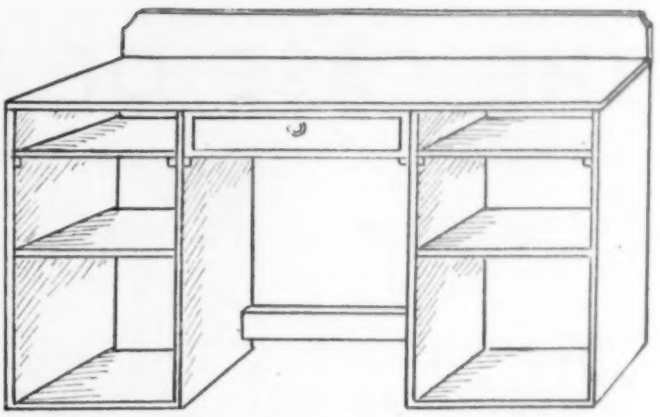
One of the most usable pieces of furniture for children is a chiffonier with a desk drawer, the front of which is hinged to drop down in horizontal position. Since all drawers are the same size the desk drawer may be moved up in position with the child's advances in growth.

In addition to space needed for clothing, there is also need for storage of play equipment. Boxes on casters, shelves, drawers and chests are all valuable stimuli to good habits in caring for possessions as well as in learning consideration for others.

Since the home has been said to be most important in the education of children one may well ask, "How may the home provide for interests and education?"

Since play is no longer considered as a means of amusing children or keeping them out of mischief but rather as a child's way of experimenting with life, the house that becomes a home for children will provide for play as well as for other necessities.

Indoor play space is often provided as play corners or centers rather than play rooms for smaller children since mother often needs to



THREE OR FOUR APPLE BOXES MAKE A DESK. THE ENDS OF TWO BOXES BEING USED FOR THE SHELVES. THE BOTTOM SHELVES ACCOMMODATE THE CHILD'S BOOKS; THE TOP SHELVES, WHICH ARE FOR TABLETS, DRAWING PAPER OR PICTURES, SLIDE OUT. THE MIDDLE DRAWER, MADE FROM A PARTITIONED KNIFE DRAWER, HOLDS PENCILS AND CRAYONS. AN UPRIGHT BOARD KEEPS MATERIALS FROM FALLING OFF THE BACK OF THE DESK. AFTER THE DESK IS SANDPAPERED IT IS PAINTED TO HARMONIZE WITH WALLS OR FURNISHINGS.

lend a helping or hindering hand as she does her own work in various rooms of the house. As an example, the kitchen often has a blackboard or a work table for the small child. A separate play room is sometimes advisable for older children. Attics and basements, when light and free from dampness and extreme temperatures, offer many possibilities for play indoors.

Outdoor play spaces and equipment are aids to the child's growing up. Some of the ways in which outdoor play facilities aid development might be stated briefly as follows:

ENCOURAGEMENT in active, health-giving play is provided through swings, a slide, teeter, trapeze, a wading pool and climbing apparatus, such as vertical ladders or poles with cross-bars connected by a horizontal ladder at the top. The height of such ladders is arranged so that the child's feet come well off the ground when he is hanging by his hands from the top. This height should not be great enough to make falling dangerous.

Experimentation and creativeness are promoted through free materials, such as sand, brick, cement, boards, packing boxes, a work bench and tools.

The nurturing instinct is furthered through pets, such as a dog, rabbits and birds, and through a flower and vegetable garden.

Ability to get on with others may be furthered through provision for games of various kinds played with others, such as basketball, baseball, croquet and tennis.

These are some of the ways in which the house may be made a home for children, in comfort and convenience as well as in health and education.

Children are delighted with Alice's ability to grow up in an instant to the circumstances she faces. They will be entranced with arrangements that fit their own homes to them.

THE CASE OF THE MAN WHO

Chapter V
of

THE DOCTOR'S SCOTLAND YARD

By

Robert A. Kilduffe

ONE EVENING HE DECIDED TO ATTEND THE CINEMA WITH HIS WIFE.

IT HAD become practically an accepted custom, whenever Inspector Carey dropped in on Trebor and me of an evening, for Trebor to relate to us some of the adventures of the doctor and the clinical pathologist in tracking down disease.

The more of these stories we heard the more apt became the orginal comparison of the doctor as a detective and the clinical pathologist as the home office expert of the Doctor's Scotland Yard, in other words, the clinical laboratory.

We found it easy to regard disease as a criminal whose identity might first be suspected by the clues it left behind. The comparison was not only interesting but logical. It became quite natural for us to regard the patient as the scene of the crime, to compare the radiologist to the police photographer, and the work of the clinical laboratory to that of the fingerprint men, the ballistic experts, and so on.

Carey was especially interested because he found these stories of disease readily understandable since they were, as the boys say, "right down his alley."

In looking over the notes I took care to make on these evenings, one thing in particular strikes me. Although the cases Dr. Trebor described to us had many odd and even peculiar features, in their final elucidation the answer was neither bizarre nor extraordinary. In other words, he did not find it necessary in support of his argument to draw on medical curiosities, so to speak, but told us rather of diseases by no means rare or unique.

To me this illustrated first, that the manifestations of disease may often be anything but simple in character or clearcut in significance, and, secondly, that even the most unusual complaint may have a relatively commonplace explanation. I was able to appreciate as never before the problem that apparently even the most ordinary case may present to the doctor and to recognize the necessity for careful and painstaking study of each patient.

Occasionally Dr. Trebor did relate cases possessing unusual and even bizarre characteristics, perhaps the oddest of all being the one he called "The Case of the Man Who Exploded."

We had been talking one evening about travel and the various places we had been. While I had traveled extensively in the United States I had never been abroad. Trebor, of course, had visited many European medical centers, while Inspector Carey had once been sent to London

EXPLODED

in connection with the extradition of a man held there and wanted in this country.

"Speaking of England," Trebor remarked, "reminds me that in a recent issue of an English medical journal, *The Lancet* for Aug. 4, 1934, I saw the report of an odd case in which you fellows might be interested. Would you like to hear about it?"

By this time he well knew that both Carey and I were always interested in his stories, and therefore his query was merely rhetorical and only a matter of habit.

"As neither of you has had the opportunity to visit rural England," he said, "I want to set the stage for you, because this incident took place in one of the smaller towns with which rural England abounds. If you have read any mystery stories by English writers you know the sort of town I mean, for it is frequently the locale of such tales. The towns are usually of moderate size with a few pubs, as the English call their taverns and small inns, perhaps a fair sized hotel, a Main Street where the life of the surrounding countryside surges on market days and the local cinema, 'movie' to you chaps, which is a prominent feature. It's the sort of place where the landed gentry together with the chief constable, the doctor, the clergy and so on constitute the important people and where every one, high or low, knows nearly everything about every one else."

"I can think of a lot of towns just like that in this country," I said.

"And I was born in one of them," Carey added.

"Yes, after all, I suppose they can be found anywhere," Trebor agreed. "Well, one evening the patient decided to attend the cinema with his wife. They found themselves quite naturally surrounded by their friends, neighbors and acquaintances. It appears from the report that smoking is permissible in these small theaters, for the article states that as the patient sat in the darkened theater, prepared to enjoy the picture, he decided to smoke a cigar. As he prepared to light it, holding the match between his cupped hands, he had a most remarkable and unexpected experience, as I think you'll agree."

"What happened?" Carey asked.

"You'd never guess," smiled Trebor. "Just as he brought the match to the cigar he expelled a loud, gaseous eructation—"

"Belch, to you," I murmured in a gentle aside to Carey.

"Simply that," laughed Trebor. "At the same instant there was a definite and even a fairly loud explosion. His cigar shot from his mouth across the seats, and his mustache and fingers were singed by a fiery exhalation!"

After a startled instant we burst forth in a shout of laughter at the mental picture of such a ludicrous occurrence. As soon as I could speak I gasped, "Come now, Trebor, not really? He didn't really explode like that!"

"Indeed he did," Trebor replied. "He really exploded. It wasn't a trick cigar, you know. He himself caused it!"

"That should have made him a 'big shot' in that town," Carey added, a sally which started us all laughing again.

"It certainly made him a prominent citizen for the minute, anyway," Trebor smiled. "You can imagine the general astonishment and alarm of those in his immediate vicinity, not to mention his own. One simply doesn't do that sort of thing in public, you know. We can only imagine just what his feelings were or picture the expression on his face, or his wife's, for that matter. But we can be sure of one thing—he never saw that picture."

"I imagine the next thing he saw was his doctor," I said.

"You'd be right, of course. It's that doctor who tells the story. He describes the patient as a thin, pale, middle aged man whose story, I imagine, must have caused a great deal of surprise. Questioning brought out the fact that for a number of years he had suffered discomfort, distress and often some pain after eating. Recently the patient had had attacks of vomiting. These came on irregularly with no apparent relation to anything which had been eaten. In fact, the attacks seemed to occur without obvious cause. In describing them, however, one thing of special interest was mentioned; sometimes food that the patient had eaten many hours before was present."

"Had he ever done any exploding before?" I asked.

"No," replied Trebor, "and that is without doubt the reason he had not bothered to see his doctor before. But he did complain of a good deal of 'gas on the stomach' and of frequent eructations which, he said, often had an unpleasant odor. Because of their violence and frequency they had become a source of annoyance and embarrassment in both his business and his social life.

"Well, in the face of such a history the obvious thing to do was to try to determine whether there was anything wrong in this man's stomach. So the doctor sent him to the laboratory for a test meal and gastric analysis."

"I suppose that means that they intended to find out how his digestion was, and all that sort of thing," I said.

"That's the general idea. In the laboratory we put the stomach to work to see how well it does its job. We give the patient what we call a test meal, the character of which depends

THERE WAS A DEFINITE AND EVEN A FAIRLY LOUD EXPLOSION. HIS CIGAR SHOT FROM HIS MOUTH ACROSS THE SEATS, AND HIS FINGERS WERE SINGED BY A FIERY EXHALATION!

somewhat on what we are trying to find out. The meal may consist simply of a piece of toast or dry bread and a glass of water or a cup of tea, or it may be more elaborate. After a definite time we analyze the meal and see what has happened to it."

"With the x-rays?" asked Carey.

"No," said Trebor, "we remove the meal from the stomach. This is a simple procedure. The patient swallows a flexible rubber tube of small caliber. This, by the way, is not as difficult to do as it sounds. After the tube has entered the stomach a glass syringe is attached to it, and the stomach contents are withdrawn. You'd be surprised how easily this can be done. In fact, many patients with certain chronic stomach disorders wash out their own stomachs with these tubes every morning just as easily as you wash your face and teeth."

"Not me!" said Carey with some emphasis.

"You could do it too. It's just a matter of practice, and you'd be surprised how easily you get used to it."

"What happens to the test meal after you get it back again?" I asked.

"Quite a number of things. You see, as a result of a great many studies on normal people who had been given test meals composed of a great variety of foods we know just what should happen to such foods after, say, an hour in the normal stomach. We know approximately how much the food should have been altered by the digestive juices, and we know about how much gastric juice should have been called forth for the job. So we examine the test meal chemically and microscopically and then compare the results with the average normal reactions. It's quite a logical procedure, you see. A good deal can be ascertained before we start the actual analysis. For example, if a cup of tea or a glass of water is given on an empty stomach and if we get three or four times that amount of material after the meal is withdrawn, it is obvious either that the stomach must have had something in it when the test meal was given, or that there has been more than the normal amount of gastric secretion. We know, too, how fast the stomach should empty itself. Therefore, if too much or too little is found on withdrawing the meal, we learn something about the stomach's motility. Simple, isn't it?"

"Yes, all these things are very simple, after you have explained them," Carey remarked.

"You know," I said, "I think I see something of importance in one thing the patient said. He told the doctor that sometimes after he had been sick he recognized things he had eaten some time before. So I deduce that his stomach had been holding things back. How's that, Watson?"

"First rate," smiled Trebor, "even though it is rather obvious. If there was any question about that or if that were the particular thing in which we were interested, we could prove it or rule it out by including in the test meal something easily recognized by the naked eye—raisins, for example."

"I should think that they would have looked for firecrackers in that fellow," grinned Carey. "What did the examination show, anyway?"

"Well, without going into too many technical details, the most important observation was that

the food was being retained in the stomach for longer than the average period required for digestion. This sometimes happens simply because the stomach is sluggish and sometimes because there is some sort of obstruction to its emptying. So, the next step was—"

"The good old x-ray picture," I interjected.

"Exactly! The picture not only corroborated the conclusions drawn from the analysis of the test meal, but it also suggested definitely the probable cause.

"Now the stomach," Trebor continued, "is a muscular sac lined with a special tissue called the mucous membrane. It contains the glands that manufacture the gastric juice, pepsin, hydrochloric acid and so on. The muscular covering is quite thick and spreads in various directions. It is this muscular arrangement which enables the stomach to churn and mix the food and gastric juice, a process which continues until the food has been sufficiently digested to be ready for the next stage, which takes place in the small intestine."

"I thought the stomach was the important digestive organ," said Carey.

"It is important, of course," replied Trebor, "but it does not do all the digesting by any means. The stomach, as a matter of fact, is really only a preparatory organ of digestion. It prepares the food for the final process, which takes place in the small intestine. There are about thirty-two feet of small intestine, you know. It is also the place from which the absorption of the digested food takes place."

"I'm certainly picking up a lot of information," said Carey.

"Good!" I grinned at him. "Then eventually there's some hope of making you at least halfway intelligent."

"I wish I could say as much for you," he retorted. "What I want to know is, what led to the explosion?"

"Well," said Trebor," at the lower end of the stomach, which, by the way, is called the pylorus, there's a sort of muscular valve which closes the outlet until the digested food is ready to be discharged into the first portion of the small intestine, the duodenum. Now the x-ray picture showed that this valve was so thickened and contracted that it was unable to open fully. Consequently, when the stomach attempted to empty itself it could do so only partially and with difficulty through the small opening."

"I suppose, of course, there's a name for that sort of thing," said I.

"We call the condition pyloric stenosis. It naturally leads to gastric retention."

"Can something be done about it?"

"Surgery is the only remedy, "Trebor answered. "Some of the thickened muscle or scar tissue must be cut out and the valve must be loosened. An injury of some kind is usually the cause of the formation of scar tissue. Ulcers of the stomach are quite frequently found in the region of the pylorus. This man had had an ulcer there. Do you remember the complaint of pain after eating? The x-ray picture showed that the ulcer had healed over and, as is the case when a destructive lesion anywhere heals over, a scar had formed which produced the pyloric thickening and thus led to the stenosis. An operation removed the scar and brought the patient back to normal—and that's that!"

"Hold on!" exclaimed Carey. "That's not the end for me! I still want to know about the explosion. What led to that?"

"Oh, that was just a bit out of the ordinary, wasn't it?" laughed Trebor. "The explanation is, after all, rather simple. Practically all the foodstuffs we eat are susceptible either to fermentation or to decomposition and frequently to both. In a sense, the digestive processes include these two agents. Ordinarily, whenever the digestive processes are normally carried out, the food leaves the stomach before there is time for the gas to form. But if the emptying of the stomach is delayed or obstructed, as was the case in this man, then the gas not only forms but, as it cannot readily leave the stomach, accumulates there. As a result the stomach becomes distended, the gas rises and exerts pressure on the cardiac or upper end, and in order to relieve the pressure and discomfort there will be a sudden, loud and forcible expulsion of gas through the mouth."

"Whew!" I remarked. "That's some explanation for a faux pas!"

"It isn't always so considered," Trebor said with a smile. "In fact, among the Arab tribes

of the desert, and possibly with other more or less primitive peoples for all I know, a loud, hearty belch after a meal is considered a compliment to the host and evidence of the splendor and magnificence of the feast. In fact, it is expected of the guest."

"Ah! Just an old Arabian custom," said Carey with a grin.

"Just so," agreed Trebor. "And unless you want to insult your host, the next time you dine in the desert you had better not forget it."

"But these stomach gases aren't explosive, are they?" I asked.

"Fortunately not as a rule," Trebor answered. "They have been analyzed, however. Their variable composition depends on the substances from which they have been formed as well as on the manner in which they are produced. In part they are composed of ordinary air which has been swallowed with the food. Other gases that have been found include carbon dioxide, hydrogen, hydrogen sulphide, and methane, which, by the way, is known also as marsh gas or fire damp and is the gas most often responsible for mine explosions.

"As you probably know, hydrogen is explosive when it is mixed with just the right proportion of air. When you remember that this man was holding a lighted match in his cupped hands before his mouth, thus concentrating or at least confining the gases to some degree, the explosion is easily understood."

"So there's your explosion, Carey," I said. "I suppose that case is practically a medical curiosity," I added.

"You know the old saying about there being nothing new under the sun?" Trebor replied. "As a matter of fact, the same thing has been reported before, several times. Cases were reported in the *British Medical Journal* for 1886 and for 1890. Another case was reported in the British *Lancet* for 1902, the journal from which I took this case report. In one of these cases the patient's breath took fire while he was blowing out a match. In another the explosion occurred while he was lighting a pipe. The pipe was blown out of the man's hands, and flame singed his hair and eyelashes. Such an incident could easily happen again."

(To be continued)

[NOTE.—The cases to which reference is made in this article are: An Explosive Eructation, by T. East (*Lancet,* Aug. 4, 1934, p. 252); An Unusual Cause of Burns of the Face; Halitosis or Diseased Breath, by G. T. Beatson (*British Medical Journal,* June, 1886, p. 295); A Case of Dilatation of the Stomach Accompanied by the Eructation of Inflammable Gas, by J. McNaught (*British Medical Journal,* 1890, p. 470); Explosive Eructations, by A. A. Martin (*Lancet,* 1902, p. 991)].

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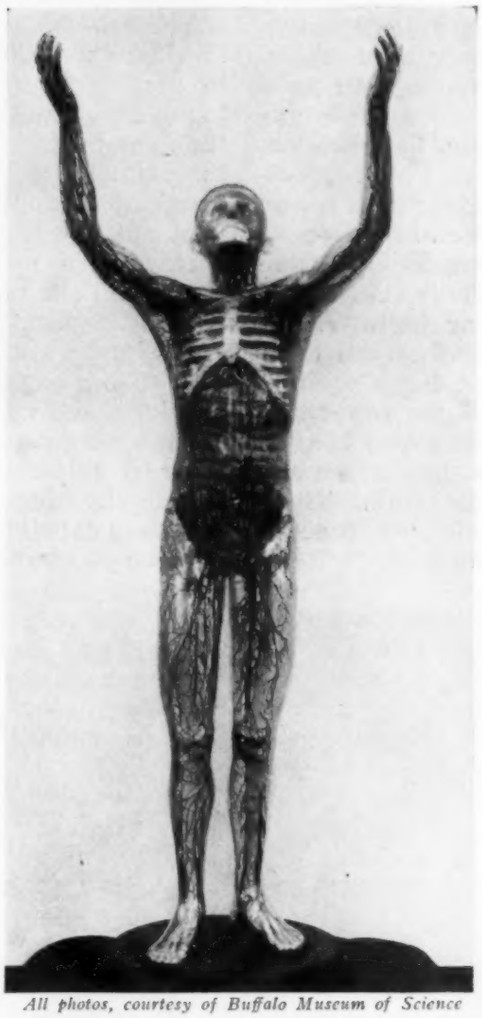
Health Education Through Models

By
LILIAN FAIRCHILD



All photos, courtesy of Buffalo Museum of Science

GRADUALLY THE TRANSPARENT MAN SEEMS TO GLOW WITH EAGER LIFE. A GOLDEN FIGURE AGAINST A BACKGROUND OF DEEP BLUE.

DURING the past several decades there has been a general trend among the educators of this country toward the instruction of the layman, that he may be better able to help himself intelligently in the various crises which are bound to occur in his life and that he may have a fuller appreciation of things both practical and cultural. In no phase of education has this been more pronounced than in the physical care of the body. Health centers where diet, infant feeding or general hygiene may be studied abound in all large cities. Gymnasiums are overcrowded with those to whom physical training has become a fetish. Classes in physiology, organized to teach the ordinary man the marvelous mechanism of his own body, have brought to him a fuller appreciation of its mysteries and thus have safeguarded his health.

This physical education of the layman is exemplified in the Cabana Hall of Man at the Buffalo Museum of Science. One finds here a grouping of the latest devices of the scientists, working models of the body, showing its various actions and reactions and demonstrating the forces, operations and processes of the organs.

At the end of the Hall of Man, in a domed alcove, stands the Transparent Man, a life-size reproduction of human form, showing the beauty of contour, the exquisite grace one might expect to find in a statue by the Greek Phidias. Beneath the transparent material, cellon, which corresponds to the skin, one can see, on the right side, the superficial arteries and blood vessels which lie just below the surface, while on the left are the larger and deeper blood vessels which feed the internal structures. All these internal organs are modeled in exactness as to size and relation, and in addition are equipped with tiny electric lights, so that by the working of an automatic switch each organ is illuminated in sequence: the brain, larynx, thyroid gland, left lung, right lung, heart, liver, gallbladder, pancreas, spleen, stomach, appendix, small and large intestines, rectum, kidneys and urinary bladder. Through the glass skin one can clearly see the size and location of these organs.

The dramatic way in which this is accomplished leaves the spectator spellbound. All is dark, with only the dim outline of the Transparent Man visible. Suddenly a light illuminates the brain, the organ to which man owes his exalted place among the anthropoids; and as the brain is lighted, an illuminated label on the rim of the platform on which the Transparent Man stands flashes the name of the organ on view. Never after this will there be any doubt in the observer's mind as to the exact location of these organs. Then for a second, all is dark. Gradually the Transparent Man seems to glow with eager life, and the various separate organs which have just been seen are lost in the complete picture of the man, his arms raised, a golden figure against a background of deep blue.

THE Transparent Man is not alone in this newly installed hall at the Buffalo Museum of Science. There are many other exhibits: one, a life-size roentgenogram of a living woman, shows not only the bones but the structure and relations of the internal parts of the bone. Dislocations, fractures, pathologic conditions and the presence of foreign bodies may all be revealed by the x-rays. If one has ever had doubts as to the practical value of the x-rays, this picture dispels them.

If one wishes a glimpse into the body to learn the actual relationship of its organs, there are in the Hall of Man two models, including head and torso, one model cut lengthwise, and the

other transversely into 2-inch cross-section slices. These cross-sections are so arranged that by turning a crank they may be separated and reassembled by the student. This exhibit is appropriately called the Body Book, for it is there for all to read.

WE HAVE thus far seen the body as a whole. Try to imagine it stripped of its flesh, stripped of its muscles and sinews, stripped of everything down to the bony structure, the skeleton. How many bones has the human body? Ordinarily the answer is 206, which includes 6 tiny ear bones; but occasionally there are masses of bone or cartilage in tendons, especially where the tendon passes over a joint or some bony prominence such as the thumb or the knee. On examining the skeleton one sees how all these individual bones are fashioned together in a definite pattern. The spinal column consists of 33 bones, 7 in the neck, 12 in the chest, 5 in the back, 5 grown together to form the sacrum and 4 in the coccyx, or rudimentary tail. These vertebrae form a hollow protecting tube in which lies the delicate spinal cord.

On pressure of an electric button the head of the skeleton moves, the wrist turns on the elbow joint, the arm is raised just as it is in life, and the ribs rise and fall as though the breath were being drawn in and exhaled.

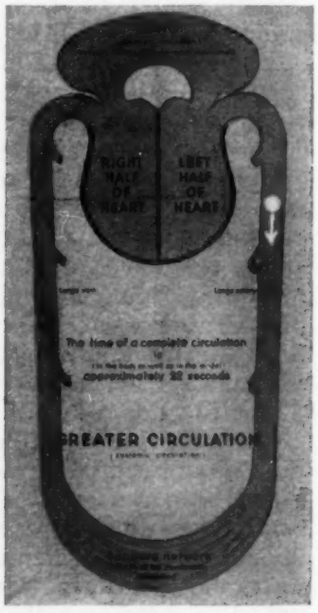
Another exhibit relates to chest and abdominal breathing. By moving a lever, one may see how the expansion of the chest is accomplished; by moving another, one may watch the flattening of the diaphragm, the great sheet that forms the floor of the chest. This flattening increases the diameter of the thorax in another direction. One is able to understand from this exhibit what is meant by chest and abdominal breathing.

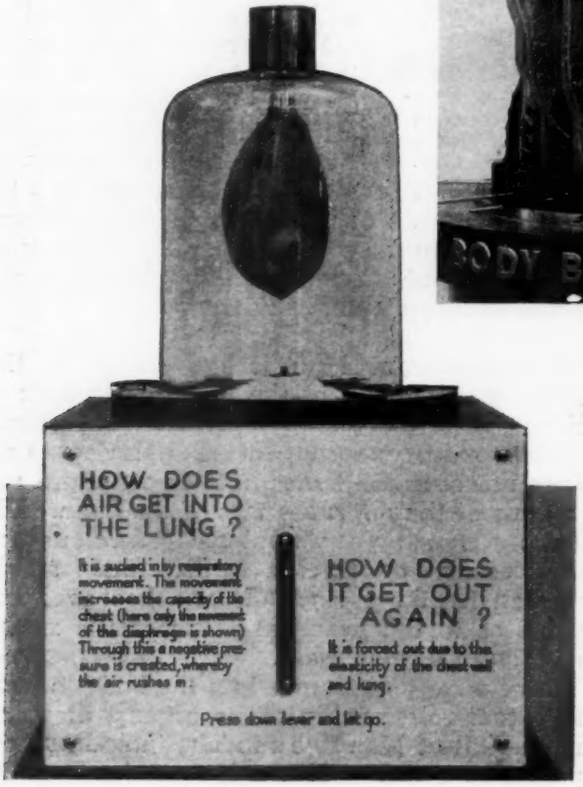
Having seen the expansion of the chest in breathing, one naturally wants to see the organ that is responsible for the action. That organ is the lung. The action of the lung is portrayed by a rubber bag worked automatically by levers; the lung, the rubber bag, expands, just as the human lung expands on inhalation. When the lever is released the bag promptly collapses, just as the lung collapses, as it were, when the breath is expelled. The lung shown in the Hall of Man is merely a rubber bag situated in a vacuum, but living lungs are also collapsible organs situated in a vacuum.

THE BODY BOOK SHOWN AT THE RIGHT CONSISTS OF CROSS-SECTIONS OF THE HEAD AND TORSO WHICH REVEAL THE ACTUAL RELATIONSHIP OF THE ORGANS.

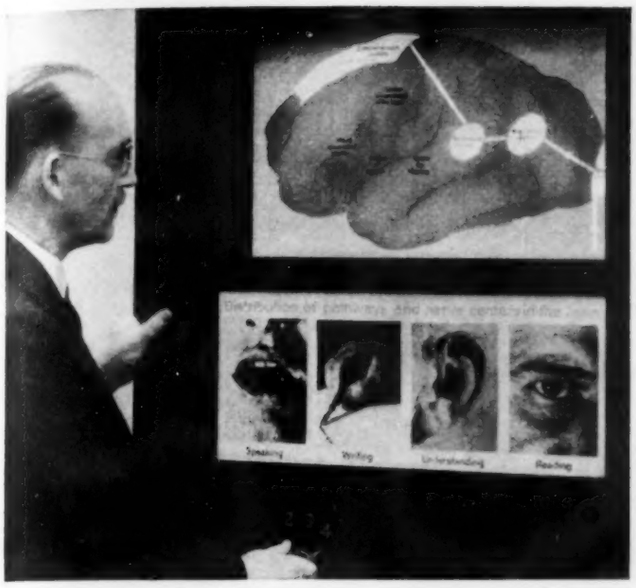
THE EXHIBIT PICTURED AT THE EXTREME RIGHT SHOWS GRAPHICALLY THE COURSE OF A BLOOD CORPUSCLE IN ITS JOURNEY THROUGH THE BODY.

THE ACTION OF THE LUNG IS SHOWN BY A RUBBER BAG, SITUATED IN A VACUUM AND WORKED AUTOMATICALLY BY LEVERS. THE BAG IS MADE TO EXPAND AND COLLAPSE AS DOES THE HUMAN LUNG.




HOW DOES AIR GET INTO THE LUNG ?
It is sucked in by respiratory movement. The movement increases the capacity of the chest (here only the movement of the diaphragm is shown). Through this a negative pressure is created, whereby the air rushes in.
HOW DOES IT GET OUT AGAIN ?
It is forced out due to the elasticity of the chest wall and lung.
Press down lever and let go.

One of the most interesting models in the Hall of Man is the Switchboard of Speech. This model depicts the surface of the brain and shows the centers that have to do with such activities as speaking, writing, understanding and reading, and the order in which they function. How does the brain work when applied to these four activities? The brain controls man's actions. It has raised him to the highest place in the animal kingdom. But what is the physical action of the brain, when, for instance, the hand starts to form a letter, as in writing? If one presses the electric button marked "Writing" a light



THE SWITCHBOARD OF SPEECH COMMANDS GREAT INTEREST.

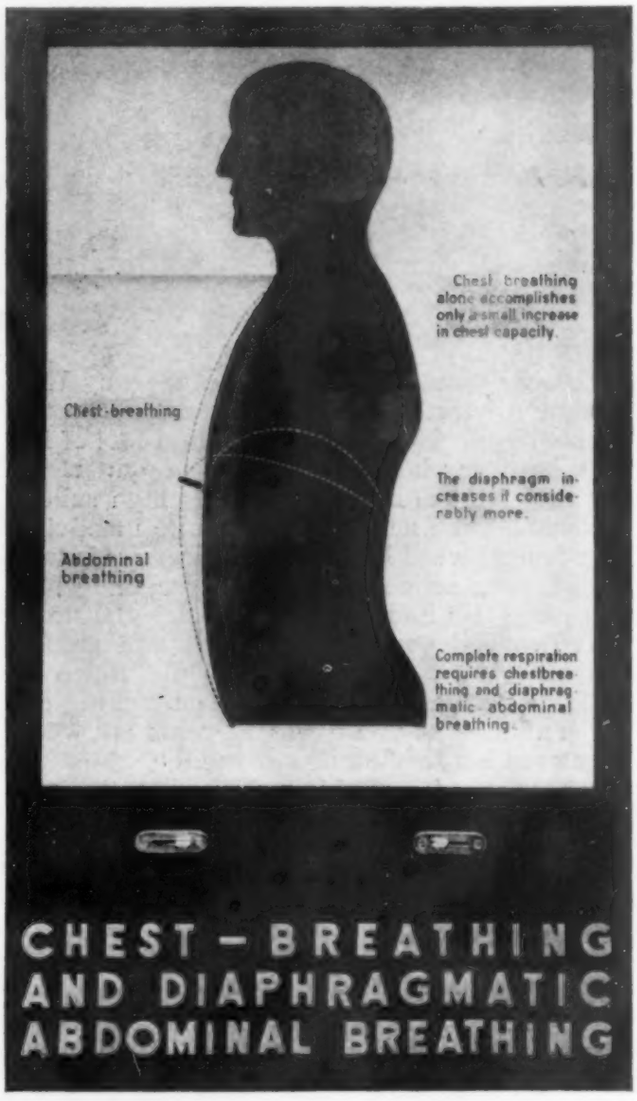
appears in the Comprehension Center. From there it shoots to the Word Sound Center, as the word is formed in thought, then to the Word Picture Center and thence to the Word Movement Center; and one may then imagine the Word Movement Center sending the impulse to the hand, which begins to form a letter. These centers thus cooperating with lightning rapidity to produce definite action may be likened to a telephone switchboard operated by an efficient manipulator.

Just so in speaking, hearing and reading, different fixed portions, the nerve cells of the physical brain, are called into play. Athletic games, such as tennis or baseball, require the concerted action of many centers, each contributing the proper impulse at the proper instant to produce the necessary pull. From this visible demonstration one can better understand the complex character of the simplest action than by reading in a textbook that the brain is composed of tiny nerve cells, each attached to a muscle, another cell or a group of cells, which control our actions.

THE body is provided with an elaborate system of veins and arteries through which flows a liquid which contains every necessity for cell life. This liquid, the blood, is kept in circulation by an excellent pumping station, the heart. The largest model in the Hall of Man depicts the circulation of the blood, demonstrating how it is forced from the heart to the most remote parts of the body. A model of the heart is divided into four chambers, two on either side. Replicas of the valves of the heart open and close as the fluid rushes in and out. This action is produced in the model by an external pump acting in place of the heart.

If one were to follow one of the tiny corpuscles in the blood stream from the moment it starts from the left ventricle of the heart on its journey through the great artery, the aorta, through the smaller arteries, the capillaries, by veins to the upper right chamber of the heart, to the lower right chamber, to the lungs, to the upper left chamber and then to the lower left whence it started, it would take just twenty-two seconds. A tiny light, representing a single blood cell, makes this hurried journey. One hundred and fifty trips an hour is the rapid pace by which the corpuscles make this round trip.

THERE are many other models in the Hall of Man, all serving to acquaint one with the hidden mysteries of the human body. They are actually "working" models, better adapted to the student than are the minutely explanatory charts which were formerly used. How interesting they have proved is shown by the serious attention given them by the hundreds of persons who have studied them since the Hall of Man has been open to the public. If public health is to be safeguarded, in no better way can it be accomplished than by an intelligent knowledge of the physical body.


Chest breathing alone accomplishes only a small increase in chest capacity.
Chest-breathing
The diaphragm increases it considerably more.
Abdominal breathing
Complete respiration requires chestbreathing and diaphragmatic-abdominal breathing.
CHEST-BREATHING AND DIAPHRAGMATIC ABDOMINAL BREATHING

SQUARE PEG

By Josephine Boring

WITH PRIDE, WILLIAM SHOWED ME THE LITTLE BOOKCASE, EXPLAINING HOW HE HAD MADE IT AND HOW HE MEANT TO FINISH THE BEAUTIFULLY GRAINED WOOD WHICH HE HAD CHOSEN.

I FOUND something irritating in the way William Allward's dark eyes roved about the classroom. Now and then, with a toss of his head, he threw back the lock of straight black hair that fell persistingly over his high sallow forehead. Then he settled again into inactivity.

Vernon Allward had seemed to romp his way through high school. For him everything had been easy. He had starred in school plays and operettas, had gone in for sports and held a high scholarship record. Meanwhile, down in the grades little William had been coming on, but coming slowly. He was 15 years old when he entered his freshman year in high school.

I experienced something of a shock the first time I saw William, a pale, anemic specimen of boyhood. Nothing in my classroom could interest him. He sat and sat and stared with a fixed expression of melancholy not unmixed with apprehension.

A month after school opened I looked up his school program and set off to interview his other teachers. Perhaps some one had found a means of interesting him. Reports were generally unfavorable. Then I opened the door of the woodworking room and saw William at a long bench in the pale sunshine of the late afternoon. A small open-shelved bookcase stood before him. Mr. Hunter, the teacher, rose from his desk at the other end of the room.

"Very good," he said in answer to my inquiry. "He has unusual interest and ability. Don't you want to see what he is making?"

Together we walked over to the long bench and stood by William. In his face I saw an expression new to me. Gone was the apathy, gone the idle waiting for the closing bell. Here was a live boy. With pride he showed me the little bookcase, explaining how he had made it and how he meant to finish the beautifully grained wood he had chosen.

"You like it down here, don't you?" I asked.

"Yes, I do," came the rather emphatic answer. "I wish lawyers could make things of wood."

"Lawyers?"

"Yes. I am going to be a lawyer, and I like to make things."

"Why be a lawyer if you like work of this kind so well?" asked Mr. Hunter.

"Oh, I have to. My father says so."

He ran his hand over the smooth surface of one of the shelves, then looked about the room.

"Smells nice in here, doesn't it, Miss Morton?"

I laughed a little at that childlike remark and sniffed the air a bit doubtfully. Too often smells of oils and varnishes had crept up the air shaft from this room to mine. Today they were not here. Instead the air was filled with the soft fragrance of unfinished wood.

"Yes," I said, "it does." Then, "Do you often work here this late, William?"

"Whenever Mr. Hunter lets me; sometimes two or three days in the week." This was spoken with a smile at Mr. Hunter, a smile such as, I am sure, few teachers of academic subjects ever received from William.

From that room I carried away plans for reaching the boy in my English class. A few days later he talked, not uninterestingly, on the varieties of wood used in finishing and furnishing the high school building. Later came a talk on valuable furniture woods and, after considerable research whereby he proved that he could read intelligently and effectively when interested, he discussed period furniture so well that he was invited to repeat his talk to one of the history classes. Soon all oral and written compositions and book reports were linked more or less closely with this favorite topic. He did not learn to conjugate a verb or to analyze a difficult sentence correctly, but he did come to life in many of the more practical phases of the English course. Convinced that this was all I should expect of him, I rejoiced to see the change in his attitude, to note the passing of the old melancholy stare at me and about the room. I forgot that I was helping to train a future attorney at law; that is, I forgot till Mr. Cameron, the principal, called a general conference of William's teachers and I found myself in the school office face to face with Mr. and Mrs. Allward.

An air of general disapproval had taken the place of the old pride and satisfaction which used to envelop them when they came to visit Vernon's teachers.

Why were we not doing for William what we had done for Vernon? Were the public schools no longer to be trusted? The training William was receiving was no foundation on which to build for the legal profession.

I think that was the first Mr. Cameron had heard of the coming law course and, tragic as was the situation, I wanted to laugh as I looked into his face.

"But you do not mean that you hope to prepare William for your own profession?" He spoke as if expecting to be told that he had not heard correctly.

"Yes. Why not?" Mr. Allward's tone was hard.

Mr. Cameron drew a deep breath and began diplomatically, "Well, he just isn't that type. He hasn't that sort of personality."

"With proper training he could have. Why isn't he handled as Vernon was?"

"Because he isn't Vernon, and we cannot make him into the kind of boy Vernon was. I am afraid William can never be a good lawyer."

"Then he'll just have to be a poor one," snapped Mr. Allward. "For four generations the men of our family have been lawyers, and I'd rather he'd be a poor lawyer than to have him follow any other calling."

"But would William?" was what I longed to say, but, being one of the chief offenders in the boy's school program I thought silence the better plan for me.

Mr. Cameron, however, raised the question as he tried to show the futility of attempting to force any life into a mold for which it was never intended.

With an air of finality, Mr. Allward announced that no school teacher was going to tell him what he was to make of his boy. Mr. Cameron, however, was not ready to give up. With unfailing patience he tried to show that what we were doing was having a good effect on the boy.

"Isn't he happier than he has ever been in school before?" he urged. "Surely his general health is better, and there are marked improvements in personality."

"There is not much of anything wrong with his health," Mrs. Allward interrupted. "He is naturally nervous, and he doesn't always sleep well; but he can't be helped by spending endless hours in a workshop when he should be studying. As for his academic work, he could get it if he would only apply himself. Why don't you push him as you should?"

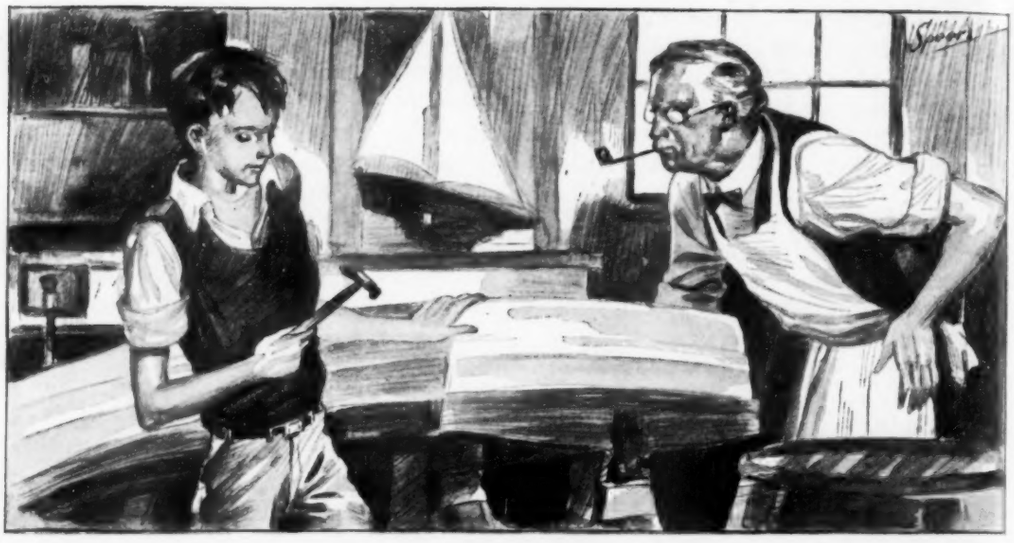
"Your boy is trying to grow in the direction of his natural bent," Mr. Cameron replied. "We do not want to push him in the wrong direction. He will never be a happy man if we do too much of that."

"Happy!" scoffed Mr. Allward. It was absurd to suggest that William could not be happy as a lawyer. Had not he and the other men of his family proved that a man could be happy in that profession as in any other? Consider the boy's inheritance, his background! Still blustering, he rose to go.

One remark of Mrs. Allward floated back as they went down the stairs. "Papa," she said whiningly, "if we let these people have their way they will make a common carpenter of our boy."

"These people," I repeated, wishing that my position did not so obviously compel a tone so low that it would not reach her ears.

"Poor William," said Mr. Hunter as the group broke up. "He might easily do worse than to become a common carpenter!"



WILLIAM HAD PATIENTLY HOARDED HIS ALLOWANCE TILL HE HAD MONEY ENOUGH TO BUY THE MATERIAL FOR A SMALL BOAT, WHICH HE HAD BEGUN TO BUILD IN THE SHOP OF A KINDLY OLD SHIP CARPENTER.

"Poor William," was to be repeated frequently in the days that followed, for William spent no more happy afternoons at the bench by the window in the woodworking room. His father allowed him to keep up his classwork there for the needed credit on the year's work, but overtime was strictly forbidden.

I think the boy tried to keep up his work in the other classes, but the source of all his real joy in school was gone, and courage lagged. Toward spring he began to settle again into the old moody idle dreaming. His hands trembled, and there was a nervous twitching of his lips when he was urged to any sustained effort. Left to himself, he drew pictures, endless pictures of chairs and tables, of beds and desks. "Compensation for the loss of his extra time in Mr. Hunter's room," I said to myself when I saw them.

It was a pale and listless William who returned to school in the fall. Denied, now, even one hour a day in the only department where he really enjoyed the work, he would have elected mechanical drawing or something in the art department, but his father could see no need for either of these in his son's life. Finally he decided on a boys' chorus as an elective.

Vernon had sung well, and the family did not disapprove this choice so long as there went with it the studies his father thought suitable.

"He might sing a little if he had anything to sing," said the chorus director. "I mean if there were anything *left* in him that wanted to find expression in song."

The year was a succession of failures. William was defeated, humiliated, helpless in the entanglement of his program and yet, with it all, so patient and lovable that no teacher thought to blame him.

"Something will break one of these days," said Mr. Hunter, who had kept a kindly eye on the boy.

Something broke the night the music department gave its spring concert. William, standing in the back row of the boys' chorus, swayed for a moment from side to side and then dropped limply to the floor.

Involuntarily, I started to rise from my seat near the front of the auditorium. Then I saw Mr. Cameron go out the side door to the corridor which led back of the stage to the dressing room toward which the other boys were already carrying the slim, inert figure. With Mr. Cameron was Dr. Schuler, who had been sitting beside him. Dr. Schuler! A new hope for William leaped within me. Here was a man whom the boy's parents might allow to help him though they had so effectually tied our hands when we had thought we could do it; for Dr. Schuler has, to a remarkable degree, the power to go beyond physical symptoms to those mental complications which may be the real cause of all the trouble. As a general practitioner he has missed the big fees that come to many of his specialist friends who are no more able than he, but for his genuine and wholesome sympathy and understanding he has an unusual following of grateful humanity. Perhaps William's collapse, which had all but broken up our concert, might lead to the expert treatment which he needed.

A week after the concert I saw Dr. Schuler leaving the Allward home. Apparently deeply preoccupied, he came slowly across the street to his car, which was parked at the curb. Seeing me on the walk he stopped, and I seized the opportunity to ask about William. "He'll be out in a few days," was the answer; "not altogether well but coming on. He will not be able to return to school, however."

I had expected that and made no comment. I wanted to say, "What is really the matter with him? What do you see in the case?" Since such questions were hardly in order, I said half jokingly, "If you were to ask me—but, of course, you won't."

He looked at me shrewdly and then, matching my light laugh with one of his own, he answered, "If I were to ask *you,* and perhaps I shall, you would say that, somehow, the human animal just does not thrive on frustrations. I have not decided, yet, just how much I can do about it in this case."

My high hope that Dr. Schuler might do everything about it in this case was shattered when, a few weeks later, the Allwards left for their summer home on the Maine coast. When they returned in the autumn, William was not with them.

"They say he's a lot better," reported Frank Holder, his neighbor and former classmate. "He's going to a private school where he's to get ready for law school. Poor old scout! I'm sorry for him for I know he hates it."

William did not come home the next summer, but one story of that vacation in the East came to us. It was told by his mother, who was deploring the amazing lack of appreciativeness of the modern youth.

It seems that William had patiently hoarded his allowance till he had money enough to buy the material for a small boat, which he had begun to build in the shop of an old ship carpenter. When the long hours of absence from home had led to the discovery of his plans, his father had hastened to buy him a boat—"a really *good* boat."

"And would you believe it," wailed Mrs. Allward to Mrs. Holder, "he hardly ever took it out! He actually seemed to enjoy the friendship of that queer old man. All he wanted to do was to work on his own boat, work *with his hands,* in that smelly old shop. I do not see what we are coming to when young people have so little appreciation of their chances in life. Why are they so perverse?"

"Perverse!" said Mr. Hunter when I told the story to him. "I only hope the boy is growing a backbone."

But there seemed little evidence of a backbone, other than the purely physical variety, when William came home in the fall. He had not been in law school, and he had not, so I understood, brought home a diploma from the preparatory school he had been attending.

ONE day some six months later, hunting for a cabinet shop where I might have grandmother's old cherry desk refinished, I came upon William. Finding no one in the office at the front, I had wandered down a long hall to a workroom in the back. As I had seen him once before, there stood William at a long bench against a west window. This time it was a walnut chest over which he bent with the old rapt look of pleasure in a beautiful piece of woodwork. So busy was he that I had a moment to observe him before he saw me. He was taller than when I had seen him last but not quite so thin, I thought; the same, yet different, different within. The black hair still fell over his forehead. He lifted his head to throw back that stray lock. Then he saw me. "Miss Morton!" There was cordiality in his voice, poise in his manner.

"Do you work here?" I questioned.

"Part of the time." He said it with evident satisfaction. Then, in answer to the suprise he must have seen in my face, he laughed lightly, an easy, comfortable sort of laugh, such as one never heard from him in the old harassed school days. "I know what you are thinking. It's hard on the Allwards to have a son who is willing to spend his time here, but I *had* to do something at which I was not a failure. I like this work, and I can take pride in what I turn out."

"That means everything to one's peace of mind," I observed.

"But I don't mean to stay here forever," he went on. "I think I am going to make a success of something about which the family will feel better. Three hours a day I am over at the art school. They don't know about that yet."

"The art school?"

"Yes. I'm studying furniture designing. If there is anything that is more fun than making furniture, it's designing it. Do you remember the pictures I used to draw in class?"

"Designing furniture. William," I said, "you will come into your own yet."

"It's been hard," he answered, "hard to fight so much opposition. I could never have done it but for Dr. Schuler."

"Oh, so Dr. Schuler advised you?"

Then, sitting on the work bench beside the walnut chest, I listened to the whole story.

THE two years in the East had been hard, harder, if possible, than the two in our high school. He had come home whipped, discouraged, lost. By chance he had met Dr. Schuler. A few minutes' casual conversation on the street had led to a visit to the doctor's office. There he had been wisely counseled and directed. It had taken weeks of patience and diplomacy to win reluctant consent to his going "on his own," to doing exactly what he pleased for one year.

"And do you know," he said with a happy smile, "I am practically well? Not a headache in three months and at last the kind of digestion a young fellow ought to have. It's marvelous that I should feel so much better with hardly a bit of medicine. I think Dr. Schuler is the greatest man I ever met."

I could echo that heartily. There had not been one word of blame for all the years he had struggled for his chance, only appreciation of the fact that the family was letting him work things out for himself, letting him go, and he seemed fond of that phrase, "on his own."

"I'll show them yet," he finished confidently.

He walked to the door with me, and there we both remembered the errand that had brought me to the shop. "Send the desk over any time," he said. "I am doing it myself, you know."

He *would* show them, and he did!

Last week the papers carried the story of the awarding of the Pitt Furniture Company's cash prize for the most practical and artistic furniture design of the year. William Allward's design for a dining room suite won first place in that contest. Our local paper made much of the fact that the winner had had only one year's training in such work. There must be, it suggested, most decided talent when such results follow such brief preparation.

There was not a word of that foundation so patiently laid by Merwin Hunter in a busy classroom over in the Carrol High School. And there could be no word, naturally, in such an item, of the "decided talent" that must have been developed in the heart as well as the mind of a physician who saw how much a lost and stumbling boy needed help in finding himself. Well, it is the success and not the credit for it that counts, and I think I was almost as much gratified as was Mrs. Allward herself when the good news came.

And Mrs. Allward *was* happy. I know, for she told Mrs. Holder last night that she thinks it "just lovely" that one of their boys should have inherited the artistic talent of her family since the other is so much like his father.

HEALTHGRAMS ✣ from Articles in This Issue

¶Early cure of simple goiter is one of the most efficient methods to prevent the later development of the more serious types of goiter. *See page 874*

¶Although fatigue may be masked by the use of a stimulant, this does not necessarily mean that vitality has been restored. *See page 878*

¶Though every communicable disease is potentially a dangerous one, with early detection, isolation and careful nursing many cases may quite safely be nursed in the home. *See page 881*

¶Oliver Goldsmith was a physician, although a poor one. One of his friends advised him to prescribe only for his enemies. *See page 884*

¶Most speech surveys indicate that a little more than 10 per cent of the population has some type of speech defect. *See page 888*

¶The U. S. S. *Relief* is the only unit of the fleet that has ever been especially designed, built, equipped and operated as a hospital ship. *See page 891*

¶Often arrangements and equipment that help to make the house a home for children are a matter of taking thought rather than of spending money. *See page 894*

¶If public health is to be safeguarded, in no better way can it be accomplished than by an intelligent knowledge of the physical body. *See page 903*

¶The great killers of the past were germ generated while the giant causes of abbreviated life today are the result of a breakdown of the organs. *See page 921*

¶Under the title "Medical Emergencies and How They Are Met," programs will be broadcast showing the dangerous situations out of which arise burns, fractures, unconsciousness, shock, individual and epidemic disease and other medical emergencies. *See page 872*

¶Some mothers jump to the conclusion that because they are mothers, they know all about children. *See page 912*

¶Infected tonsils have been proved in many instances to be responsible for later seriously incapacitating and incurable heart disease. *See page 922*

¶One of the greatest handicaps confronting the dentist in his attempts to control dental disease is the patient's procrastination. *See page 925*

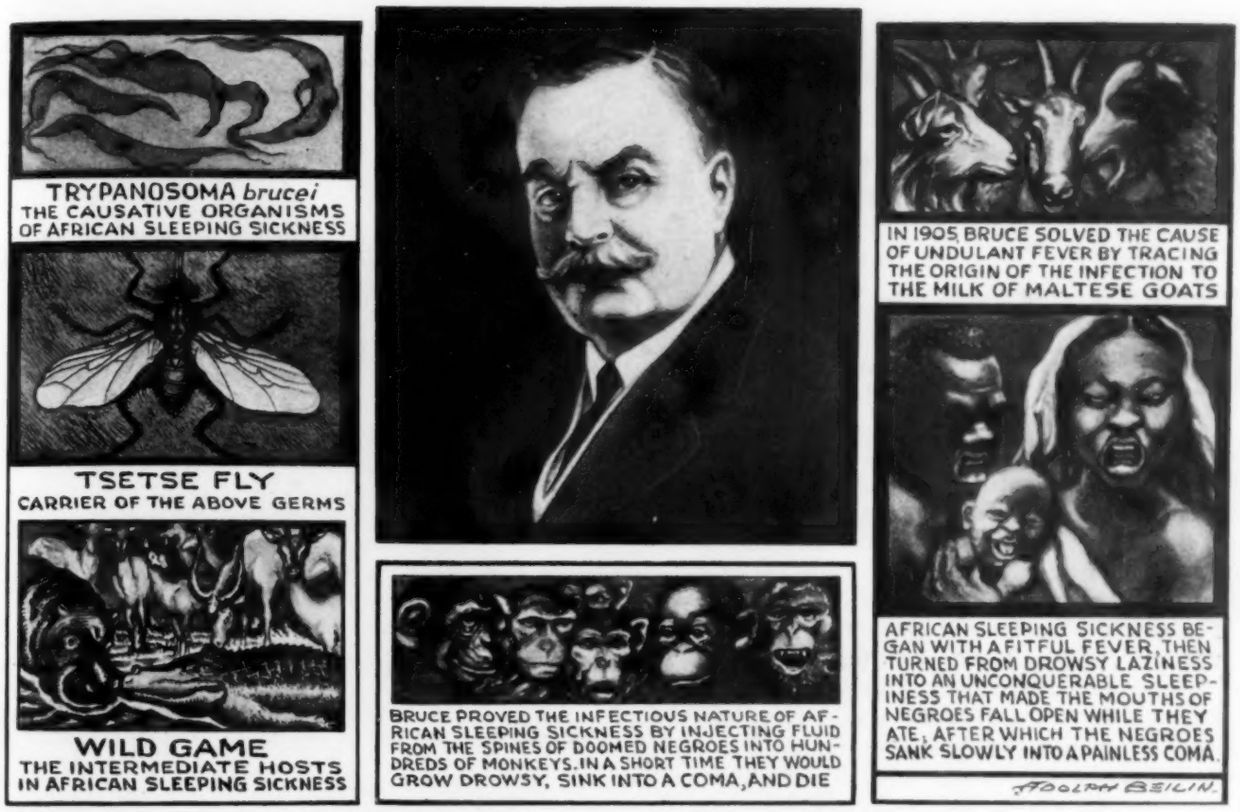
¶Citrus fruits are a fair source of vitamin A, a good source of vitamin B and an excellent source of vitamin C. *See page 932*

¶For his many investigations in connection with diseases of wild animal and human stock, the name of David Bruce will rank with the greatest among the immortals in medical science. *See page 911*

¶Insulin has enabled diabetic patients, both young and old, to add many years to their lives. *See page 916*

¶Society is demanding of individuals that they be self protective. The individual in turn should expect of society a working program for increasing group efficiency and individual advancement. *See page 941*

¶Cramping your feet will cramp your natural style. *See page 929*


TRYPANOSOMA brucei
THE CAUSATIVE ORGANISMS OF AFRICAN SLEEPING SICKNESS
TSETSE FLY
CARRIER OF THE ABOVE GERMS
WILD GAME
THE INTERMEDIATE HOSTS IN AFRICAN SLEEPING SICKNESS
BRUCE PROVED THE INFECTIOUS NATURE OF AFRICAN SLEEPING SICKNESS BY INJECTING FLUID FROM THE SPINES OF DOOMED NEGROES INTO HUNDREDS OF MONKEYS. IN A SHORT TIME THEY WOULD GROW DROWSY, SINK INTO A COMA, AND DIE
IN 1905 BRUCE SOLVED THE CAUSE OF UNDULANT FEVER BY TRACING THE ORIGIN OF THE INFECTION TO THE MILK OF MALTESE GOATS
AFRICAN SLEEPING SICKNESS BEGAN WITH A FITFUL FEVER, THEN TURNED FROM DROWSY LAZINESS INTO AN UNCONQUERABLE SLEEPINESS THAT MADE THE MOUTHS OF NEGROES FALL OPEN WHILE THEY ATE, AFTER WHICH THE NEGROES SANK SLOWLY INTO A PAINLESS COMA.
ADOLPH BEILIN.

SIR DAVID BRUCE

(1855-1931)

A Pioneer Investigator in the Field of Tropical Diseases

By ADOLPH BEILIN

FOR HIS discovery of Trypanosoma brucei, the germ that produced the disease of nagana, or sleeping sickness in East African horses and cattle, for his isolation of the causative organism of undulant fever in human beings and for his many other investigations in connection with diseases of wild animal and human stock, the name of David Bruce will rank with the greatest among the immortals in medical science.

Bruce was born in Melbourne, Australia, May 29, 1855. His medical training was obtained in the University of Edinburgh, Scotland, and in Berlin under Koch. In 1883 he went to England, where he joined the army as a surgeon. The following year he was sent to Malta to investigate the prevalent fevers, and while there, he made the scientific discoveries that brought him world-wide fame.

In 1911 Bruce was appointed director of the Royal Sleeping Sickness Commission to study animal and human trypanosomiasis, or sleeping sickness, in Nyasaland, Africa. There, with the help of his wife and a group of technicians, Bruce worked out the history of the trypanosome and traced out its development in the local species of the tsetse fly. He found that the trypanosomes carried by this local tsetse fly were almost identical with Trypanosoma brucei, which caused the nagana, or sleeping sickness in East African horses and cattle, and he proved that the same trypanosomes produced the sleeping disease in human beings. He found that these trypanosomes were a natural parasite of most of the wild game animals inhabiting the tsetse fly areas of that part of Africa. He discovered that these wild animals served only as intermediate hosts for the trypanosomes and were not themselves affected by the sleeping death; and he proved that the tsetse flies sucked up the trypanosomes from the hides of crocodiles, antelopes and other wild game, and then transferred them to horses, cattle and human beings, who became fatally infected with the sleeping sickness.

Lady Bruce always accompanied her husband on his various expeditions to tropical Africa and assisted him in his scientific researches. An expert microscopist and a talented artist, she worked with him constantly in the laboratory and under the blazing tropical sun.

The death of David Bruce occurred Nov. 27, 1931, following a long illness and only four days after that of his gifted wife.

Next Step— THE CHILD GUIDANCE CLINIC

By MASON CRUM

WE ARE entering on a new phase of child welfare. The last few decades have witnessed remarkable achievements in the physical care of infants and children. The knowledge of feeding infants and of general hygienic measures has become so popularized that he who runs may read, and the most mediocre mind may attain a fair understanding of the physical needs of childhood.

The doctors deserve high praise for what they have done. They have been leaders in the vanguard that cut down infant mortality to a degree unbelievable twenty years ago. Thanks to the pediatrician and the good family doctor of this day, the infant coming into the world in this good time has a far better chance for survival than did his little brother of a generation ago.

But what is this new phase of child care? To answer briefly, it is in the realm of the mind: mental health. The little child's body may be ever so plump; he may tip the scales at the exact ounce for his age; he may be as healthy physicaliy as a young buck, but if he has acquired bad mental habits, unwholesome attitudes and an unstable emotional life, he is not healthy in the truest sense of the term. Mothers of the better sort know much of the hygiene of the body and of nutrition and even something of the mysteries of physical growth, but what of mental hygiene? The little, physicaily healthy, plump tot may have a personality that is warped and crooked. He may be a victim of tantrums, of fears, of a thousand-and-one irritations and antagonisms induced by the conduct of ignorant parents and associates.

The influences of home, of brothers and sisters, of relatives, of playmates, which outwardly seem wholesome enough, may be the subtle cause of conflict and disharmony within the child's personality. These conflicts usually manifest themselves in divers maladjustments to the things that are. It is out of these inner strivings that much of antisocial conduct originates.

The desire of parents for information concerning the psychology of childhood presents one of the most favorable aspects of the situation. There are still some parents who think their children are perfect and who are blind to their faults and frailties. Usually they are of the authoritarian type who keep their children under a disciplinary regimen like that used in training animals. But in increasing numbers they are anxiously seeking light in the difficult task of personality development.

The desire for such information is often pathetically insistent. Such fathers and mothers take their parenthood seriously and are not to be numbered with those shallow individuals who hold to the outworn thesis that parenthood brings with itself some mysterious knowledge of childhood. Some mothers jump to the conclusion that because they are mothers, they know all about children. The old joke about the unmarried woman being ignorant of the ways of childhood has lost its point. Quite often the unmarried woman is a better guide than the overconfident mother who relies wholly on instinct and experience and the folk lore of the past. To be sure, experience is valuable and the much talked of school of experience is a good one; but life is too short to rely wholly on such a discipline. Intelligent insight and understanding and the results of accumulated experience and experimentation constitute more useful and usable criteria for child problems.

IT IS TO THE CHILD GUIDANCE CLINIC THAT PERTURBED AND FRUSTRATED PARENTS GO WITH THEIR CHILDREN FOR ADVICE AND HELP AND AN UNDERSTANDING OF THE CAUSES PRODUCING IRREGULARITIES OF TEMPERAMENT AND ANTISOCIAL CONDUCT.

H. Armstrong Roberts

Happily there has grown up in the last few decades a useful body of knowledge concerning the psychic life of children. Our most immediate need is to make this knowledge available. We have a fairly useful instrument but are not using it.

THE church schools have done a laudable piece of work in popularizing child study and have had a share in stimulating research by competent scientists. In more recent years, parent-teacher groups, local and national organizations for the study of children, and other similar agencies have made their contributions to the cause. Their teacher training courses have attracted wide attention and in many instances have been of high quality. The chief criticism of their programs is that the new knowledge has not seeped down into the home, the only place it will do any good. What is needed now, it would appear, is some agency which will make this service available to families when it is needed. There must be some agency or institution to which puzzled parents may go in an emergency. We may keep generally the rules of physical health, but in the emergency of sickness we go to the medical clinic or to the physician's office. In many centers the child guidance clinic has been the answer to this need. It is to the clinic that perturbed and frustrated parents go with their children for advice and help and an understanding of the causes that produce irregularities of temperament and antisocial conduct.

Some day we shall wake up to a realization of the extent of our bungling of childhood. Many are the crimes committed, unwittingly, in the name of childhood. The sins of adults against children are not fully understood or appreciated. Many children grow up like weeds, uncared for. Many are warped by the prejudice and narrowness of parents. The community, the school, even the church will have to answer for the sins of omission, if not of commission, against childhood. Most of us mean well, but we know so little. Our own miserable lives are not adequate for stimulating the potential best of childhood. Our children imbibe us too freely.

They become too much like us. We model their life plan after our own.

The only way to help a child is through intelligent insight and understanding. We must get rid of the mores of the tribe and do the thing that enlightened reason dictates. Most parents need to forget how they were raised and stop the vicious circle of tribal instruction. They should cease looking backward and look forward. The race will improve, not altogether by looking into the past but by peering into the future. It is for this reason that the judgments of youth should be considered in the councils of maturity. Youth is unhampered by the traditions of the past, and with each rising generation there comes up a fresh flood tide of enthusiasm and idealism. In this sense the world moves forward on the feet of little children.

MANY of the psychopathic patients and the hosts of mentally sick, both in and out of institutions, have histories indicating difficulties directly traceable to maladjustments in childhood. The amount of mental sickness in the world is alarming. There is as much mental ill health as physical ill health, and the chances are that there will be an increase of the former. We have learned to care well for our bodies, but not so with our minds. The increasing tensions of modern life afford little comfort in the prospect for better mental health. Nervous diseases are on the increase, and there is little hope for correction until we learn how to live more sanely and to make better adjustments to so-called civilization.

To Dr. Alfred Adler of Vienna goes the chief credit for the establishment of clinics which approach their task from the standpoint of what he calls individual psychology. These clinics, established in Vienna and other European cities, grew out of the moral devastation of war, dragging in its wake widespread juvenile crime and mental ill health. An excellent account of these clinics and their method of treatment is given in "Guiding the Child," a book written by Adler and his associates. One of the associates states that the adviser is "confronted with the difficult task of grasping the life plan of his fellow beings almost instantaneously, and of exhibiting the error underlying this life plan in such a convincing manner that it becomes evident both to the child and to his educators. To be able to accomplish this, one has to turn to the technique of Individual Psychology of which Dr. Alfred Adler says that it is not only a science but an art."

Child guidance clinics and similar institutions have been established in this country in many large cities. Their place of usefulness seems well assured. To be sure, they have to run the gauntlet of harping critics who see nothing good in anything that is new; but that has been the history of all innovations in education. The way of progress is beset with the mores of the tribe. I once listened to a Juvenile Court judge belittle the efforts of one who undertook to make some scientific studies of a group of children in a detention home. Tests and measurements to him were utter foolishness. His decisions were "practical" and doubtless consisted of a few notions handed down from Adam.

The child guidance clinics and related institutions will justify their existence by the service they perform. They will grow in number when they are more fully appreciated. "By their fruits ye shall know them." They are as necessary as medical clinics and are destined for great usefulness. Speaking of the peculiar work of the clinic, one of Adler's collaborators says: "The work of the child guidance clinic begins whenever the knowledge of the 'professional' educators—of parents, teachers, and to a certain extent physicians—is not sufficient to remove the educational difficulties of the child so as to encourage the child to remain on the useful side of life, or to return to it."

Incidentally the child guidance clinic becomes an important factor in parent education, for the child is usually accompanied by his parents or by a teacher. Here, as in Vienna, teachers are giving wholehearted cooperation, and they themselves share in the educative process. Another important result is that the whole problem of delinquency and the proper training of children is brought to the fore in the community. Attention is centered on the development of home life, and crime and all forms of antisocial conduct are attacked at the root. There can be little social progress until we learn how to bring up children. It is sad to reflect that the criminals of tomorrow are little children who are today sitting about somebody's fireside and in some teacher's classroom.

THE child guidance clinic will be an agency through which we may practice what we have preached. It ought to be a point of convergence of ideas where the many organizations of the community concerned with child welfare can make available the things they discuss. There appears to be a good deal of lost motion in the average community in regard to its work for children. Each organization is playing up its own tune, oblivious to the striking lack of harmony. In a sense we are like the horseman who mounted his steed and rode off in all directions. There is lack of unity and continuity in our child welfare work. We have church school courses, parent-teacher study groups, public school programs for character education, the parent education movement, a few college courses on child study, and other agencies, all seeking a commendable objective but without unity of effort. What we need to do now is to stop talking about child welfare and really do something about it.

Safety— or Sorrow?

Century-Allen

SAFETY FIRST, LAST AND ALWAYS IS THE WATCHWORD AS THE SCHOOL PATROL REGULATES TRAFFIC.

Ewing Galloway

THE CITY STREET WAS NEVER PLANNED AS A PLAYGROUND. PLAYING "CATCH" AND OTHER GAMES IN A PUBLIC THOROUGHFARE IS AN ALMOST IRRESISTIBLE INVITATION TO AN ACCIDENT.

Ewing Galloway

Ewing Galloway

THE MOTORIST IS NOT ALWAYS TO BLAME. A THOUGHTLESS YOUNGSTER DASHES SUDDENLY IN FRONT OF THE CAR, POSSIBLY TO RETRIEVE A BALL; FUN-LOVING LADS "HOOK A RIDE"—AND THE PRICE MAY BE PERMANENT INJURY, CRIPPLING OR EVEN DEATH.

SOME DIABETES "CURES" and "TREATMENTS"

By Arthur J. Cramp

FADDISTS, quacks and "patent medicine" venders find their most fertile field in exploiting sufferers of those diseases which run a prolonged course and which, at least in their earlier stages, do not cause acute suffering. Even the most vocal alleged disbeliever in scientific medicine usually hurries to the physician's office as soon as he has any ailment that produces pain. In those serious conditions in which pain, at least at the outset, is not a symptom and which call for prolonged treatment with probably a complete change in the hygienic and dietetic habits of the patient, the medical heretic is likely to succumb to the blandishments so plausibly presented by faddists, quacks and nostrum exploiters. This explains the enormous number and wide distribution of alleged cures and treatments for cancer, tuberculosis, kidney disease and diabetes.

The number of so-called remedies and treatments for diabetes is large, and their number is increasing in proportion to the admitted increase in the number of known cases of diabetes. The victim of diabetes, unless of more than average intelligence, is likely to rebel at the only treatment that holds out any hope of prolonging his life: careful dieting, strict attention to hygiene and, in the more serious cases, the use of insulin. The general public is still obsessed with the age-old idea that for every ailment there is a specific cure in the form of a medicine, if one only knows *what* medicine. Those who treat diabetic patients know how difficult it is to get them to obey the physician's orders as to diet and how prone they are to experiment with the thousand-and-one "cures" recommended to them, either by well meaning friends or by those who trade in "cures." The diabetic field is a rich one for those who would commercialize human suffering, and it is one that is assiduously tilled.

The cruder "patent medicines" for diabetes are quite frequently recommended indiscriminately for both diabetes and kidney disease. Yet there is no essential relation between diabetes and kidney disease, but the exploiters of such nostrums are too ignorant to distinguish between them, and unfortunately the general public is just as lacking in knowledge. Diabetes is not a disease of the kidneys, although one of the symptoms, that of greatly increased amount of kidney secretion, is likely to direct the patient's attention to the kidneys.

Diabetes is a disease of metabolism; that is, a disease of certain of the body processes. In a healthy person those carbohydrates, such as bread and potatoes, that require breaking down before they are assimilable, are converted into sugars in the small intestine, through which they pass into the portal vein and reach the liver, where they are converted into glycogen, or "animal starch." This is stored mainly in the liver cells, though to some extent it is also deposited in the muscles, to be used as the body needs it. Glycogen is, in effect, condensed carbohydrate stored temporarily in the body to be fed into the blood stream gradually as needed. If such storage did not occur, the amount of sugar thrown into the blood during each period of digestion would cause the body to react to it as a foreign substance and the kidneys would at once begin excreting sugar in the urine.

In health not only does the pancreas secrete the pancreatic juice, which is discharged into the intestine and which plays so important a part in the processes of digestion, but it also produces from certain specialized cells, known as the islands of Langerhans, an "internal secretion" called insulin, which enters the blood stream. It is insulin that regulates the use of the sugars formed from the food. When, as a result of a disease of the islands of Langerhans, insufficient insulin is manufactured, the patient has the disease diabetes mellitus.

The sugar, then, that appears in the urine of the diabetic patient is a symptom; it is not the disease. In fact, it is quite possible for a patient who is not diabetic to have sugar appear in the urine. It has been estimated that about one out of every six patients who consult physicians because they have sugar in the urine is nondiabetic. To determine whether the patient has true diabetes or merely a passing glycosuria the blood as well as the urine is tested for the presence of sugar. The blood of a healthy person always contains a certain percentage of sugar, but the percentage remains within well determined limits. When such limits are persistently exceeded the patient has diabetes.

The presence of sugar in the kidney secretion of those who are not diabetic is of especial interest in the discussion of freak or fraudulent treatments for diabetes, because it is such cases of transient glycosuria that produce the occasional report of what is called a "cure" follow-

ing the use of some widely vaunted remedy. What happens in such cases is that, with the dietetic restrictions which the exploiters of nearly all alleged cures for diabetes require their victims to follow when taking their nostrums, the amount of food taken, especially the carbohydrates, is reduced to the point where the patient can properly metabolize or utilize the sugar produced. Such cases of what has been called alimentary glycosuria may be due either to taking more carbohydrate than the patient can normally handle or to some emotional stress, or to both conditions.

An investigation of practically all the widely advertised "cures" or "treatments" for diabetes has demonstrated that probably 95 per cent of them comprise products which, when taken internally, act to increase the flow of kidney secretion; that is, they are diuretics. In a similarly large proportion the exploiters require the patient to diet strictly but not scientifically. These two points should be borne in mind. They are important not only to the diabetic but to the person who is not diabetic but has been led to believe he is.

The average diabetic patient learns to estimate roughly the amount of sugar he is excreting. This is done by means of color tests which indicate the proportion of sugar in the specimen examined. The patient is likely, however, to fail to measure the total amount of urine passed in the full twenty-four hours and to make his test with a portion of the entire twenty-four hour specimen; instead, he probably tests a single specimen. If such a patient takes one of the numerous diuretic nostrums sold for diabetes he will naturally excrete a much larger amount of urine than he has been passing. Obviously, then, when he tests a single specimen after taking such a preparation, he finds that the proportion of sugar *in that specimen* is considerably less. For instance, suppose a diabetic patient excretes 4 ounces of sugar daily with a twenty-four hour excretion of 3 quarts of urine. He then takes an alleged cure which so stimulates the kidneys that he doubles the amount of urine passed; that is, he passes 6 quarts of urine daily. Obviously, any given specimen tested will show only half the amount of sugar previously found.

Occasionally even physicians have been misled by these facts. A few years ago a physician, himself a sufferer from diabetes, wrote that for three months he had been using a "patent medicine," which will be described later in this article ("Expurgo Anti-Diabetes"), and he declared that the nostrum had greatly reduced the percentage of sugar in his urine. He was asked whether, in making the test, he had used portions of a twenty-four hour specimen or merely an individual specimen, and his attention was called to the fallacy just referred to. A few days later the physician again wrote, stating that he had committed the very error that had been suspected, and he reported that an examination of the twenty-four hour specimen showed that instead of being diminished the sugar excretion had actually increased.

Incidentally, the diabetic patient should be reminded that the taking of a kidney irritant in the form of "patent medicines" not only is not helping his diabetes but is still further damaging kidneys that are already overburdened by the task thrown on them in excreting sugar, thus leading to the possibility that a form of Bright's disease may be added to the diabetes already present.

In the present state of medical knowledge there is no substance known that will cure diabetes. There is known, however, a substance that has already been referred to, insulin, which, when administered scientifically, will prolong the patient's life so that he may live out his allotted span and, what is of almost equal

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If you have the slightest symptoms of Diabetes—such as excessive thirst, inordinate hunger, with loss of weight in spite of keen appetite, with nervousness, irritability, restlessness, anxiety over trifles and loss of strength—lose no time in reading one of the most remarkable books of the day. "Is Diabetes Curable"
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There are no "ifs" or "ands" about what you should eat and what you should not eat. You eat what you need. This book will be sent FREE to any sufferer of diabetes. Write M. Richarts, Dept. 140, 230 West 42nd Street, New York.
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BANBAR
PROSECUTION ALLEGING THE CLAIMS TO BE FALSE AND FRAUDULENT RESULTED IN A VERDICT FOR THE DEFENDANT
DEATH CERTIFICATES
THESE PEOPLE TOOK "BANBAR" FOR DIABETES.
TESTIMONIALS

PHOTOGRAPHIC REPRODUCTION OF AN EXHIBIT PREPARED BY THE NATIONAL FOOD AND DRUG ADMINISTRATION. THE TWENTY-THREE DEATH CERTIFICATES IN THE EXHIBIT ARE THOSE OF DIABETIC PATIENTS WHO TOOK "BANBAR." THE DEATH CERTIFICATES THAT HAVE BEEN LETTERED "A," "B," "C," "D" AND "E" ARE OF FIVE PERSONS WHO HAD WRITTEN TESTIMONIALS FOR "BANBAR." THE TESTIMONIALS ARE SHOWN ON THE RIGHT, ALSO LABELED "A," "B," "C," "D" AND "E."

importance, will permit him to eat, within reason, most of the foods that healthy persons can eat. There is also evidence that in certain cases of diabetes the use of insulin seems to help the pancreas regenerate some of its normal insulin producing powers. As Joslin has said, "A considerable number of patients begin insulin and their disease improves so much that later they are able to omit it."

The insulin that is used in the treatment of diabetes is obtained from the pancreas of the lower animals. This, when injected into the blood stream of the patient, makes it possible for him to live on what is practically a normal diet. Unfortunately, up to the present time the only way in which insulin can be administered is by means of the hypodermic needle. It cannot be taken by mouth because the digestive juices destroy it. The discovery of insulin, however, and its commercial production have made it possible for young persons with diabetes who, in pre-insulin days, invariably died either of starvation or of coma, to live to adult life and also for adult patients to add many years to their lives.

So much for the general problem of diabetes and its scientific treatment. In the paragraphs that follow there will be given as briefly as possible information about alleged treatments for diabetes, all of which are wholly worthless as cures for the disease. Some of them have been definitely declared fraudulent in the courts.

Amber-ita.—This "patent medicine" was marketed from Kalamazoo, Mich., by one Ward J. Miller, who spent thirty-three years in the real estate business and in selling eyeglasses but had no knowledge whatever of the therapeutic action of drugs. In June 1934 the Federal Trade Commission ordered Miller to cease alleging that his product would cure or aid in the cure of diabetes or would remove or relieve its symptoms.

Banbar.—This "patent medicine" was sold by one Leo Banks Barlett, an ex-shirt salesman, as a cure for diabetes. The government chemists analyzed Banbar and found that it, like so many other nostrums for diabetes, was essentially a diuretic; that is, a kidney stimulant. It was a water-and-alcohol solution of the weed "horsetail," flavored with peppermint and containing small amounts of epsom salt, potassium acetate, bearberry, May-apple, strychnine and leptandra. The advertising of Banbar led the patient to believe that by using this mixture he could discontinue insulin and, for all practical purposes, eat anything that he wanted. It never cured a case of diabetes, but the government officials who investigated it found any number of diabetic sufferers, who had relied on it and written testimonials for it, dead!

Bauer's Antidiabeticum.—This was a nostrum put out by a German concern. It was another diuretic. Investigations conducted in various scientific institutions in Europe proved that Antidiabeticum was valueless, and whatever good results followed the use of the preparation were due to the dietetic restrictions that went with the nostrum.

Beto.—This was advertised by a Chicago quack as "A Blessing to Diabetics. Very Latest Discovery. Absolutely No Dieting." The stuff came in the form of large white tablets, each one having an average weight of about one fourth of an ounce. The tablets smelled strongly of cinnamon. When they were analyzed in the chemical laboratory of the American Medical Association they were found to consist of epsom salt! In other words, patients were sold less than 25 cents' worth of epsom salt under a fancy name and were charged $5 for it. They bought it in the belief that the stuff would cure diabetes and that it would be unnecessary to diet.

The Marie Carr Fraud.—A Chicago woman who called herself Mrs. Marie Carr but who was really Mrs. P. P. LaPlant sold on the mail-order plan an alleged cure for diabetes. Mrs. LaPlant was not a physician, a pharmacist or a chemist, and she did not employ any one having these qualifications. She claimed in her advertising that she was importing cer-

tain herbs that had been used by the "monks of old"; as a matter of fact, she bought her herbs from a concern in Hammond, Ind. Her "diabetes cure" consisted of a mixture of sassafras bark, marshmallow root, couch grass, juniper berries and round dock; in other words, it was another diuretic. The thing was declared a fraud by the postal authorities in May 1932.

Diabesan.—This preparation was marketed by a New Jersey concern, and the chief evidence for its alleged value was based on the published statements of the president of the company that put it out. This man had been connected with other nostrum concerns as well as with a very crude "diploma mill." Some years prior to the Diabesan exploitation he was advertising a "consumption cure" and was convicted and fined for practicing medicine without a license. Needless to say, Diabesan never cured a case of diabetes.

Diabeticine.—This "patent medicine" was sold on the mail-order plan by W. Lee Thomas and Arthur Huyck who used first the trade name "Illinois Diabeticine Company" and later "Artlee Remedy Company." It was claimed that Diabeticine would "purge the blood of its excess sugar," that it would "drive the excess sugar from the blood stream," that it would "arrest the progress" of diabetes and that it would "avoid future necessity of injecting insulin." The postal authorities investigated this product, and the government chemists reported that Diabeticine consisted essentially of a chopped-up weed, wild carrot, popularly known as Queen Anne's lace. The government also tested it in the Pharmacological Laboratories and found that it did not have the slightest effect in curing diabetes. One of the most glowing testimonials published for Diabeticine was that of W. L. Thomas who, although the public had no means of knowing it, was the chief exploiter of the nostrum. The government investigators interviewed Mr. Thomas' physician, who admitted that Thomas was at that time suffering from diabetes. The sale of Diabeticine was declared by the postal authorities to be a scheme for obtaining money through the mails by means of fraudulent representations and promises, and in June 1935 a fraud order was issued against the Illinois Diabeticine Company and the Artlee Remedy Company, debarring them from the use of the United States mails.

Diabetol.—This "patent medicine" was said to have been the discovery of a civil engineer, one Frank M. Ames. It consisted of a package of herbs which, when investigated, were found to be broken stems with a few flower buds of a shrub belonging to the bignonia family, growing plentifully from Arizona southward through Mexico and Central America. The shrub is a diuretic. This nostrum was the subject of an article published in *The Journal of the American Medical Association* some years ago, in which it was shown that person after person whose testimonials were printed, claiming to have been cured, had, in fact, died of diabetes.

Diabetylin.—This "patent medicine" was put out by the Haemozon Products Company of West Bend, Wis., and was fraudulently labeled as a remedy for diabetes. The federal authorities who investigated it reported that it consisted essentially of yeast and sodium phosphate. The stuff was declared misbranded under the Food and Drugs Act in December 1925.

Dill's Diabetic Mixture.—This nostrum when analyzed by the *British Medical Journal* was found to consist mainly of baking soda, with small amounts of golden seal dissolved in a mixture of 35 per cent alcohol and 65 per cent water. It was sold at $2; its estimated cost was 22 cents.

Eksip.—One Matthew Richartz of New York City sold for some years the product "Eksip," advertised under the claim that it would be unnecessary for persons with diabetes to diet if they would take this "patent medicine." The chemists of the American Medical Association analyzed Eksip in 1922 and showed that it consisted chiefly of magnesium carbonate and starch. In February 1931 the United States postal authorities declared the thing a fraud and debarred it from the United States mails. Richartz was not a physician or a chemist or a pharmacist, but he was for many years a barber and later a "business agent" for a barber's union. Richartz' story was that Eksip originated with a "Dr. Stein-Callenfels," who was described as a "noted European specialist." There never was any such noted European specialist. When the postal authorities began to investigate Eksip, they looked into the case of a J. C. Meyers of Charleston, S. C., whose testimonial claimed him to be "a living advertisement for Eksip." They found that Mr. Meyers had been dead five years; cause of death, diabetes. When the Richartz case was before the postal authorities, Richartz himself presented a Mr. Lewis L. Smith, a diabetic patient who testified that since taking Eksip he had been greatly benefited and he "didn't bother about diet any more." Three days after Mr. Smith had testified, and before the Richartz hearing was completed, Smith died in diabetic coma! Certain newspapers and magazines got $20,000 a year for advertising this swindle; the concern took in over $91,000 a year!

Expurgo (Sanol) Anti-Diabetes.—This was advertised as "the only positive cure for diabetes," and the alleged ingredients, all of which were said to be "exclusively derived from the vegetable kingdom," were said to be jambul, rosemary, star anise, calamus, cinchona, cola, condurango and gentian. The stuff was analyzed in the chemical laboratory of the American Medical Association and found to be essentially a watery solution of plant extractives with small quantities of sodium salicylate and salt.

Flowering Herb.—One Walter L. Klinger of Chicago, who did business under the trade name Flowering Herb Company, sold some herbs to be used as a tea, under the claim that they would cure diabetes. The main ingredient was the buckbean, and mixed with it were small amounts of horsetail. In March 1931 the Flowering Herb Company and its officers and agents as such had the United States mails closed to them through the issuance of a fraud order.

Insoloid.—This preparation, earlier known as "Insurol," was sold on the mail-order plan. It was advertised under the claim that it "combines insulin with the actual substance of the pancreas gland." The product is wholly worthless as a cure for diabetes.

Jamun Compound.—This "patent medicine," exploited from Minneapolis, has had various formulas assigned to it by those who put it out. All the formulas were meaningless and absurd. One circular substitutes "Jamun Seed" for the "Jamun and Jamrosin" of another circular, while "Sod. Salicylate and Sodium Bicarbonate" are added to the list of ingredients. In another circular "Jamin seed and bark" replaces "Jamun and Jamrosin," while "Matico and Condurango" are omitted; "Sod. Salicylate and Sodium Bicarbonate" are not mentioned, although "Bisulphate Soda" is added. Possibly the mysterious "Jamun" and "Jamrosin" may be jambul seed and bark, not that jambul seed or bark have any virtue as cures for diabetes. Jamun Compound was absolutely worthless as a cure for diabetes.

Kaadt Treatment.—This product emanated from Fort Wayne, Ind. According to the exploiter, the Kaadt treatment "changes the starches and sugars in the intestines" so that the patient gets "normal sugar instead of diabetic sugar." While this may sound imposing to those who know nothing about the pathology of diabetes, it is quite meaningless. Some tests made on a specimen of the Kaadt treatment in 1931 showed that the product was a brown, murky liquid having an odor similar to that of vinegar, in which had been dissolved potassium nitrate, an active diuretic.

Kelpe'koe.—This is a later name for a product sold earlier as "Pacific Health Ore" and exploited from Seattle, Wash. It was recommended particularly for diabetes and also for a long list of other ailments, such as ulcers of the stomach, goiter, female disorders and piles. The stuff was a crushed rock. The directions were to pour water over the rock, and the solution was to be taken by the diabetic. The solution was essentially alum and iron sulphate.

Pancretone.—This "patent medicine" was put out by the Wabash Chemical Company of Chicago and was advertised as "the nearest specific that has yet been found" in the treatment of diabetes. While the advertisements advised the patient that if he bought Pancretone it would be unnecessary to go on a rigid diet, nevertheless the victim found after purchasing the drug that he must "not use potatoes, white bread, sugar, candy, pie and cake, macaroni, rice, spaghetti and beans, dates, figs, bananas, preserves and jellies"—as well as other things. When Pancretone Tablets were analyzed in the chemical laboratory of the American Medical Association, they were found to be essentially digestive tablets to which had been added considerable cornstarch and chalk.

Photo-Synthetic Tea.—This stuff was put out by one Charles F. Miller, who used the trade-style Photo-Synthetic Tea Company. It was sold from Lancaster, Pa., and was labeled as a remedy for diabetes. The Food and Drug Administration seized some of the stuff, had it analyzed and found that it was merely a ground-up weed, horsetail! The stuff was declared a fraud, and Miller was fined $25.

Sal-Sano.—This nostrum was declared misbranded under the National Food and Drugs Act. The government chemists who analyzed the stuff reported that it contained about 40 per cent baking soda, 20 per cent Glauber's salt ("horse salts"), 20 per cent common salt, and 13 per cent sodium phosphate. The federal authorities declared that it was fraudulently represented as a cure for diabetes "when in truth and in fact it was not." The exploiter pleaded guilty and was fined $100.

Sanborn Treatment.—This piece of mail-order quackery now comes from Battle Creek, Mich. It originated with a Dr. Ida M. Sanborn of Chicago, from which city it was first exploited by a Chicago lawyer, one Charles S. Harmon, a diabetic patient who claimed that he had been cured by it. Mr. Harmon died of diabetes. Later Dr. Sanborn died, and the "cure" seems to have been bought out by one Walter T. Bobo of Battle Creek, who had operated quack medical mail-order concerns for years. In 1934, when the government officials were closing in on Bobo because of his quackeries, he committed suicide. The Sanborn treatment has been responsible for some untimely deaths of sufferers from diabetes.

Uvursin.—This product, put out by the John J. Fulton Company of San Francisco, is apparently a later name for what was earlier called Fulton's Compound. Under the earlier name the preparation was declared by the federal authorities to be worthless as a cure for diabetes, and the courts held that the claim that it would cure diabetes was fraudulent. A long and detailed article on the Fulton Compound was published in *The Journal of the American Medical Association*, Jan. 29, 1916, by the Bureau of Investigation. Case after case was cited of individuals who had given testimonials for the Fulton nostrum, claiming that they had been cured of diabetes, and evidence was presented in the form of the *(Continued on page 953)*

It's a Far Cry from the Health Hazards of Pilgrim Days to the Health Helps of Today

The November HYGEIA Shows Why We Moderns Have Cause for Thanksgiving

"Perhaps the United States has never realized the debt it owes a physician. . . . Probably no physician in this country has fought greater difficulties with greater courage than did Dr. Samuel Fuller, the Pilgrim physician," writes *Catherine Cate Coblentz* in describing the grueling hardships encountered by the founders of the Pilgrim Colony.

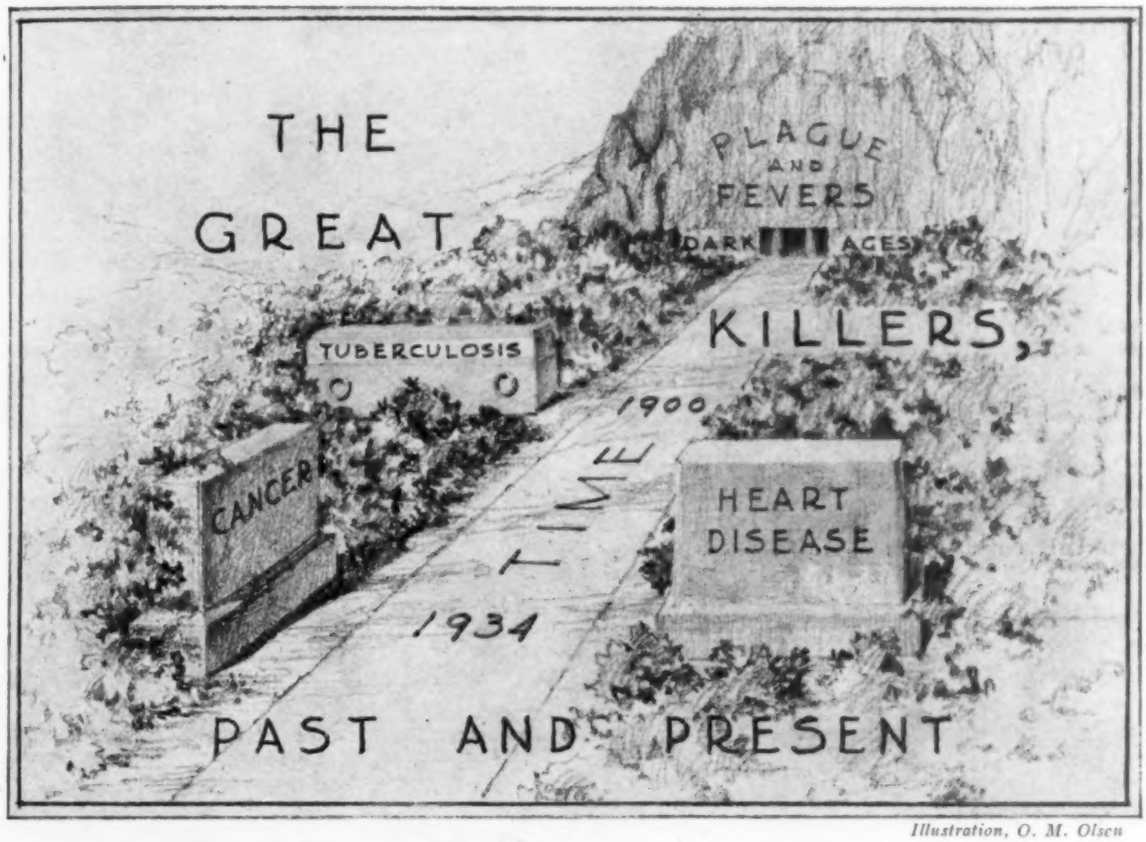
The health of the modern American citizen is one of the concerns of government and is guarded zealously. "Were it not for the constant routine vigilance of the U. S. Public Health Service, the government death fighters," declares *E. W. Keever*, "bubonic plague would have free access to every port. The reason for our safety is simple: routine vigilance on the part of the Public Health Service. . . . Day in and day out these front line death fighters are catching rats, peering into microscopes, examining prospective immigrants, testing the purity of drinking water, operating hospitals and enforcing health regulations; and for what purpose? So that the people of the United States will never be faced with the terrible death that rides on the back of a flea; so that no other disease can enter our midst from without, and so that the general public health will be improved year by year and decade by decade."

"Some one has remarked that there appear to be fewer crippled children than in former years," writes *Dr. Paul W. Giessler* in "The Crippled Child." "This is probably due in part to the fact that the causes of crippling conditions are recognized and corrected early and therefore more effectively, but it is also due in part, I believe, to the fact that the cripple has been taught to adjust himself to his condition and to make a useful place for himself in life." Some of the factors that have helped the crippled child to adjust himself to his environment and to attain self reliance and a measure of independence are discussed in this article.

"Traditions and Turkeys" claim the attention of *Melba Acheson*, who gives healthful and helpful hints and presents temptingly different recipes for use on Thanksgiving Day—or any day.

Curious Stories About Health

The Second of a Series by MELVIN PRICE ISAMINGER



Illustration, O. M. Olsen

FAR BACK along the path of time in the dreaded days of the dark ages a huge mountain of mortality from plague and fever clouded the sky.

One of the greatest killers of this pestilential period was bubonic plague, known also as Oriental plague or, more technically, malignant polyadenitis, a man-murdering microbe disease caused by the germ Pasteurella pestis, named after the great French scientist Louis Pasteur. The plague germ is planted in the human body by the bite of a flea, Xenopsylla cheopis, after it has been feeding on an infected rat or some other rodent. Modern sanitation has practically put an end to plague.

As we move along this path of time from the death days of middle ages toward the present, another devastating plague may be seen to chill the heart and rack the body of man. By 1900 this great white plague, tuberculosis, was causing more deaths than any other disease in America. In 1904 the National Tuberculosis Association was formed, followed closely by serious work in the prevention and control of the disease on a large scale. Each year there was less tuberculosis. If the present rate continues, tuberculosis will be a rare disease in a few generations. Even now these annual conquests have resulted in its relegation to a less conspicuous place as a destroyer of national vitality.

Two massive mortality tombstones lie in the foreground of 1935. Foremost among the life terminators in America today is heart disease, accounting for more deaths than any two other causes combined. Cancer fatalities, though in the shadow of the grave dug by heart ailments, mount high and threaten each year with greater motive to maim the mighty body of man.

The great killers of the past were germ generated while the giant causes of abbreviated life today are the result of a breakdown of the organs. Since more people are living longer than formerly, modern man must take better care of an older body in order to keep the parts from wearing out.

Surgical Conditions in Children

An Article in Which W. J. PAUL DYE Distinguishes Between Medical and Surgical Diseases

EVERY CUT OR SCRATCH SHOULD BE IMMEDIATELY WASHED WITH SOAP AND WATER TO REMOVE DIRT AS FAR AS POSSIBLE. FOLLOWING THIS, THE APPLICATION OF A MILD ANTISEPTIC WILL TEND TO PREVENT THE GROWTH OF BACTERIA AND LATER A SEVERE INFECTION.

MEDICAL DIAGNOSIS and treatment, in children as well as in adults, is divided into two main classifications. One has to do with the group of diseases that are most amenable to a supervised treatment, consisting of partial or complete bed rest and the use of specific medicines and diets. The other concerns itself exclusively with that group of diseases in which medicinal preparations alone are valueless, sometimes being even detrimental to a temporary or permanent cure, but in which operative treatment is sometimes the one and only recourse. An example of a strictly medical disease is an uncomplicated case of pneumonia; an illustration of a strictly surgical disease is appendicitis.

Several purposes are in view in the presentation of this discussion: first, to enumerate various symptomatic manifestations so that parents may realize what they mean and not institute home treatment that may make matters more serious; second, to help in preventing operations that would in all probability be unnecessary if proper understanding and treatment of the condition in mind were present and in use at the outset, and third, to bring about the knowledge of the definite nature of surgical or operative treatment in indicated diseases and so to establish a more complete understanding and confidence in such treatment in order that this form of treatment may be used early and to the best advantage of all concerned.

SURGICAL conditions may be classified in various groups. The first group to be considered consists of injuries and inflammation of the skin and underlying soft tissue. Every cut or scratch should be immediately washed with soap and water to remove dirt so far as possible. Following this, the application of a mild antiseptic such as a 2 per cent aqueous solution of mercurochrome will tend to prevent the growth of bacteria and later severe infection. In order to prevent subsequent contamination of the wound, it is well to cover such an injury with sterile gauze or other suitable dressings for at least from twenty-four to forty-eight hours until healing has well begun. Any wound that is deep

enough to cause a falling apart of the skin to or including the underlying tissues will heal much more satisfactorily if stitches are taken as soon as possible after the injury has taken place. The family physician should be consulted early in such cases.

Redness or swelling or both about the immediate vicinity of a recent bruise, scratch or cut should be regarded seriously. Such appearances indicate the beginning of inflammation as the result of growth of bacteria in the wound. The application of sterile wet gauze dressings of a hot solution of magnesium sulphate, borax or boracic acid in the proportions of 1 tablespoonful per quart of water will often reduce the inflammation and prevent the necessity of an operation. Incision and drainage of the tissues about the wound will hasten cure if pus has formed; it is obvious then that infected wounds should be under the care of a physician in order that the proper procedure may be carried out at the best time. The physician should be consulted concerning the type of poultice to be used, for some poultices in home use breed bacteria and so make matters worse.

SOMETIMES a cut or scratch on the fingers or toes may be followed by little if any redness at the site of injury, but from six to twenty-four hours later, small, fine, raised red streaks may be seen going up the limb and gradually or rapidly extending farther and farther. Most laymen falsely call this blood poisoning. It is, rather, a spreading of inflammation by means of the lymphatic vessels, which do not contain any blood. It is one of the most dangerous of all inflammations, sometimes quickly resulting in death through involvement of the general system. A physician should be consulted at the very beginning in order that the proper treatment may be instituted as quickly as possible.

A serious and frequently fatal disease known as tetanus, or lockjaw, is the result of delayed or improper treatment of puncture wounds of the skin or soft tissue by rusty nails or other sharp, dirty objects. Early injection of tetanus antitoxin, a serum, may prevent this serious occurrence. The physician should be consulted early with regard to this sort of injury, and his advice should be followed implicitly.

Boils, which are local collections of pus in the skin, need to be opened for relief and cure.

A common infection in children is a disease known as cervical adenitis. Many laymen, as well as some physicians, refer to this condition as scrofula. This is an inflammation of the lymph glands in the neck and is seen as a prominent, usually rounded and painful swelling in this region of the body. These inflamed glands sometimes subside spontaneously; more often the inflammation goes on to the formation of pus, whereupon an operation in the nature of opening the gland and draining out the pus is necessary. Through neglect or fear on the part of parents, in some cases these glands have become so swollen as to press on the windpipe or trachea, thereby seriously obstructing breathing. It is wise to submit to operation at the earliest advice of the attending physician to prevent such dangerous results. As a rule, operative treatment, when indicated in these conditions, gives immediate results with little danger.

IN SURGICAL diseases of the chest the most important condition is empyema, which means the formation or collection of pus in some portion of the chest cavity.

If a youngster who has pneumonia or is apparently recovering from it shows a sudden relapse with increase of fever and prostration, empyema may be strongly suspected. Here again, surgical treatment in the nature of the insertion of a tube into the chest to drain off the pus is usually the only helpful form of treatment. Fearful parents who delay having this done after being so advised often endanger the child's life as delay may so weaken his general condition that the operation will be one of last resort rather than a natural, relatively risk-free method of treatment.

Surgical diseases of the ear, nose and throat form another classification. Tonsils that are greatly enlarged, those that are infected even if not enlarged and those in children who have repeated attacks of sore throat or "colds" should be surgically removed along with the adenoids. As a rule mouth breathing in children is caused by adenoids obstructing the nasal passages and leads to constitutional diseases and arrested mental and physical development. Absorption of poisonous material into the general system through infected tonsil tissue or repeated sore throats with infected tonsils has been proved in many instances to be responsible for later seriously incapacitating and incurable heart disease. Surely an "ounce of prevention is worth a pound of cure," and the relatively risk-free operation of tonsillectomy and adenoidectomy is worth while to prevent serious constitutional diseases later in life.

Children are extremely susceptible to inflammation of the middle ear, that portion of the hearing apparatus that lies behind the drum. In many cases an early operation to open the ear drum and drain out the infected material will prevent the presence of a permanent perforation of the drum and may serve to prevent the occurrence of deafness in adult life. This early surgical intervention may prevent inflammation of the mastoid bony cells, which lie in the skull back of each ear; infection of these cells, with required operative treatment, is many times more dangerous than a relatively simple incision of the drum.

Children who have become crippled as a result of malformation and disease require pro-

longed, carefully supervised treatment with regard to education, psychology, massage and other muscular and nerve stimulation, and often a surgical operation or a series of such operations is necessary as a final procedure. There are many institutions devoted to such so-called orthopedic problems. The child so afflicted should be entrusted implicitly, whenever possible, to the care and management of one of these reputable institutions or to an orthopedic surgeon.

Fractures of bones naturally require surgical treatment. X-ray pictures before and after the "setting" or reduction of a broken bone are essential in determining whether or not the treatment has been adequate. The surgeon may find it necessary to manipulate a fracture more than once. He will be guided by the position of the bones as shown by the x-rays and will not be satisfied until he has obtained the best position for a good functional result after healing.

One of the most common of the surgical diseases of the abdomen is hernia, or rupture. There are different types of hernias. One occurs at the umbilicus. Two others are found in the region of either or both groins. Hernias are due to a weakness of the tissues with a resultant protrusion of the intestine, covered by the skin, through the wall of the abdomen. Trusses, as a general rule, serve only to hold the intestine temporarily inside the abdomen; furthermore the use of trusses is pernicious, as they further weaken the tissues, making the opening of the rupture larger. There is only one hopeful method of obtaining a permanent cure; that consists in an operation devised to restore the normal strength of the weakened tissues by suturing or sewing strong tissues of similar character over the defect. Strangulation of the intestine in a hernia is a serious possibility in ruptures; it requires an immediate operation and occasionally ends fatally. Surely an early, relatively risk-free operation for hernia is advisable.

There are three exceedingly serious diseases that occur in the abdominal cavity of children: appendicitis, intussusception and volvulus. Appendicitis means inflammation of the appendix. Intussusception is the name applied to telescoping of one portion of intestine over another. Volvulus is a condition in which there is a twist of the intestine; it causes an obstruction of the lumen of the intestine or a shutting off of the blood supply to a certain portion of the intestine, and it sometimes results in both these conditions.

The symptoms of these diseases are approximately the same. There is an abrupt onset of abdominal pain and tenderness, vomiting, fever and prostration. Diarrhea may be an early symptom, but lack or absence of bowel movements is the rule. Any or all of these symptoms may be considered as a danger signal, calling for immediate consultation with the physician. When any of these symptoms are present, the child should not be given a cathartic under any consideration or be forced to eat and drink unless the physician so directs. It is generally conceded that rupture of the appendix is due to the casual use of laxatives or to delay in diagnosis and operation. If it is necessary to attempt to make the bowels move when a child has abdominal pain and the physician is not immediately available, a small enema of warm water and soapsuds may be used. This is a relatively safe procedure and will not, as a rule, aggravate any serious intra-abdominal disease.

Any and all of the three diseases mentioned call for immediate operation. Statistics of a large series of such cases show that early operation is the only safe procedure and usually results in an ultimate cure; delay and the use of cathartics are responsible for the majority of the deaths.

The physician should be called early. Home treatment not only is frequently costly in the end but often leads to disastrous and sorrowful results.

A Mother Prays

He goes today, dear Lord, to keep
A strange new tryst with quiet sleep.
He knows naught of the frosty breath
That blows from gates of guarded death.
He does not know how cruel, how kind
Cold steel can be: within his mind
The flowers of hope and trust arise,
Are shadowed in his wide blue eyes.
Let Thy hand, Lord, be on his hand,
As through Time's hour-glass the sand
Slips steadily; and keep the light
That is my life, steadfast and bright!

By ELEANOR ALLETTA CHAFFEE

THIS THING CALLED DENTISTRY

Chapter X of These Teeth of Mine

By
DAVID W. McLEAN

THE EARLIEST KNOWN PICTURE OF A DENTAL OPERATION WAS FOUND ON A PHOENICIAN VASE UNEARTHED IN THE CRIMEA. (FROM CIGRAND: RISE, FALL AND REVIVAL OF DENTAL PROSTHESIS.)

THERE WERE dark days in Assyria in the year 650 B. C. For weeks the king had been stretched on his couch, racked with pain and fever. Daily he grew worse, and many a gloomy head was shaken at the dismal outlook.

There came a day when the subdued royal palace bustled. Dignitary and menial alike stepped softly but quickly and spoke discreetly. The king, querulous with pain and illness, was on the rampage. He had been too docile, had submitted too long to the ills of ordinary men. He had been too lenient with his court physician.

"Bring the knave before me," he shouted.

Away scurried the messengers. Soon, a bit breathless but with unruffled dignity, the physician bowed before his royal patient.

"Knave," blazed the patient, "too long have I lain here suffering; I still grow sicker with each day. Do something now to cure me, or it will go hard with thee."

Whereupon the royal physician launched into a most learned discourse and gave much good advice.

"And lastly," he ended, "the burning in the king's head and the pain in his body and his limbs come from his teeth. They must be extracted."

There the unearthed tablets leave us. How did the story end?

Did the king remain stubborn and finally die without the suggested treatment? We do not know. If he recovered, the knowledge which had cured him was soon lost. A flicker of light in the vast gloom of ancient ignorance did not travel far.

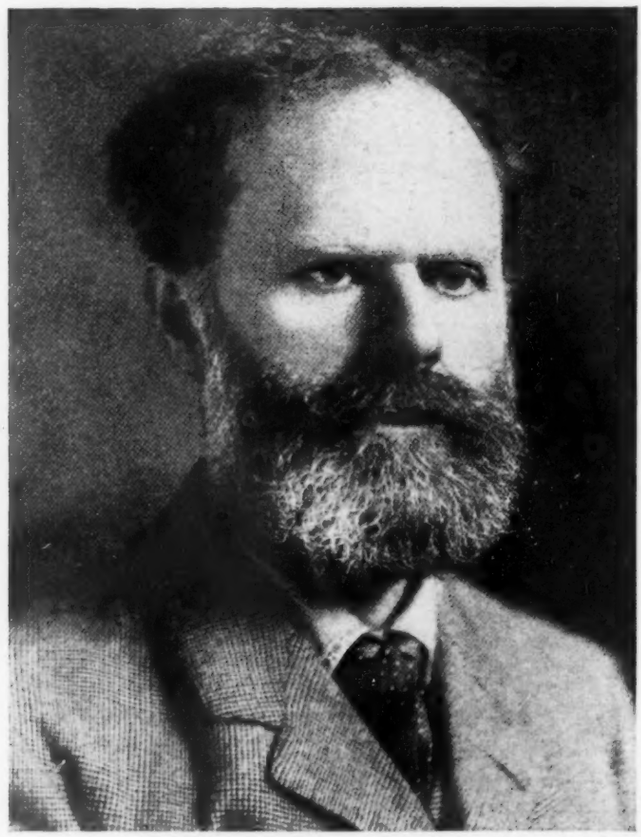
Through the centuries which followed we find only here and there a glimmer, a hint of the truth, uncovered in each instance by the toil and genius of some man outstanding in his era.

Hippocrates caught a flash of it; so occasionally did some other. But for the most part the leaders of medicine concerned themselves with crude vaporings. "Keep the teeth white by rubbing them with a stick and sulphuric acid." It would not occur to one to drop a tooth in the stuff and see what would happen to it! To cure a toothache, they suggested, touch the tooth with a frog's leg stripped of its flesh or with a tooth extracted from a corpse, or place in the cavity a paste made of roasted earthworms and spikenard ointment mixed with the crushed eggs of spiders.

Many physicians of the middle ages thought that the actual removal of a tooth was beneath their dignity and delegated it to barbers and to blacksmiths who could make their own instruments. Blacksmiths, furthermore, had the necessary brawn; if they could manage a horse, surely they could a screaming victim dangling on the end of pliers!

Monks and clergymen, who were the most learned men of the period, were the physicians. There were two classes of surgeons: surgeons and barber surgeons. For a long period they belonged to the same guild; both were less highly considered than the physicians, for both worked with their hands, while the physicians discoursed an awe inspiring sort of witchcraft.

By 1700, France boasted not only tooth pullers but men who performed various operations on the teeth and provided substitutes for those lost. These men passed an examination and were licensed to practice. It is interesting to note in passing that the first license examinations in the United States were held about 140 years later, and not until almost 170 years after France's example were examinations required in every state in the Union.



AT THE END OF THE NINETEENTH CENTURY, WILLOUGHBY D. MILLER, AMERICAN DENTIST, BLAZED THE TRAILS OF FOCAL INFECTION DISEASE. (PHOTO. COURTESY OF "DENTAL COSMOS.")

In 1728, Pierre Fouchard, a French dentist, published an epoch making book. There had been accumulating a fund of dental knowledge, a small amount of wheat mixed with much chaff. Fouchard absorbed it all and went far beyond. Many modern procedures are based, sometimes with amazingly little change, on his practices. Pyorrhea was long called Fouchard's disease.

Up to this time, dentists had jealously guarded the secrets of their successful practice; not so Fouchard. "To the prejudice of my own interests," he writes, "I here give the most exact account of them."

Prejudice indeed! Historians hail him as the Father of Dentistry.

In the American colonies the principal demand for dentistry was for extraction. Simple diet containing almost no sugar, together with active outdoor life, undoubtedly did much to limit decay.

A few itinerant dentists roamed the colonies. A few established themselves in the larger cities where growing population and the increasing niceties of civilized life and diet produced more and more demand for dental services. These dentists modestly announced through the press their willingness to perform any and all operations on the teeth and, when possible, mentioned their training abroad or under an American dentist of prominence.

Two French dentists came to America with Lafayette's army and did much to disseminate the more advanced knowledge then prevalent in Europe. They gave new impetus to the practice of dentistry in America.

But still there were no colleges. Each aspirant to practice attached himself to some dentist of prominence.

Between 1821 and 1825, lectures on dental subjects were given in the Baltimore Medical College, but when in 1835 two of the leaders in dental teaching petitioned the University of Baltimore to attach a dental department to its medical school the request was declined.

In 1839 these two men organized the first dental college, and dentistry took its place as a profession separate from medicine. It was unfortunate that dental education started as a private enterprise rather than under university auspices; for the college proved a success, and as a result it took almost a century to make of dental education a scientific and professional rather than a commercial undertaking.

It seems strange now that either physicians or dentists could ever have been blind to the fact that it is just as logical to try to treat the heart or kidneys as something apart from the rest of the body as it is to treat the teeth as though they were no integral part of it. But then the knowledge of the body itself and of the origins of disease was still as rudimentary as that of dentistry.

The development of the microscope and the discovery of bacteria by the Dutch janitor Antony van Leeuwenhoek had early paved the way for the realization that the mouth plays an important part in general health or disease; but it was not until about 200 years later that an American dentist, Willoughby D. Miller, working in Koch's laboratory in Berlin, published in 1891 a paper entitled "The Human Mouth as a Focus of Infection."

Still the medical and dental professions jogged on their way, each with its head buried in its own affairs, until in 1910 Sir William Hunter seized both, and particularly dentistry, by the scruff of the neck and awakened both to the importance of mouth infection to health.

The realization that general health is dependent on mouth health and that, on the other hand, mouth health is dependent on general health has been the motivating factor of dental progress ever since.

But for dentistry to move itself onto that new foundation was a herculean task. The entire procedure had to be remodeled to new specifications.

Today dentistry has found its place. From the gutter of tooth pulling by Tom, Dick and Harry, it has risen to a position of dignity as a branch of the science of healing and of health maintenance.

The health problems of the future will more and more center about the prevention of the focal infection diseases, such as diseases of the heart, blood, kidneys, nerves and joints, and the general nutritional and metabolic disorders. The mouth and teeth head the list of sources from which focal infections arise.

As the responsibility of dentistry more and more applies to general health, the responsibility of the physician more and more must include consideration of the teeth. The two branches of the healing art, despite their early antipathy, are growing closer and closer together. Today there is more cooperation between them than ever before; but there is still not enough for the public good. The healthy patient has a healthy mouth and efficient teeth. A patient may be quite healthy without an arm or a leg, but not minus teeth.

One of the major problems before the dental profession today is the cost of dentistry to patients in the low-income class.

Increased knowledge of general health requirements has placed increased exactions on the dentist. Dentistry has become more complicated and consequently more time consuming and more costly.

If teeth could be treated merely to stop or prevent toothaches, to beautify the smile or fill annoying gaps in the ranks, without responsibility for the patient's health, dental service could be quick, easy and of low cost. Pulpless and infected teeth could be given a few brief medications and then be filled and forgotten. Fillings could be introduced in the simple and crude manner of a century ago; crowns and bridges need neither fit the tooth minutely nor chew efficiently.

Life would be simpler for both patient and dentist if the teeth could remain, in our concept, a thing entirely divorced from the body and general health. Unfortunately they cannot remain so. The scientific knowledge acquired during the past century cannot be ignored.

THE only sane dental program for the patient is one of careful maintenance of protective diet and good general health, of constant and scrupulous home mouth hygiene and of frequent and regular visits to a carefully selected dentist, into whose hands the technical policy for the care of the teeth will be fully entrusted.

The only sane technical policy for the dentist is to treat, not the teeth per se but the patient by way of the teeth. Always the dentist's eyes must be focused on the effect his operations will have on the patient's future health. The dentist's thought must range ten, fifteen, twenty years ahead. In treating the smallest carious cavity he must remember that caries leads to more and worse caries, to pulp infection and pulp death; that the pulpless tooth follows caries, and systemic disease is prone to follow

EARLY IN THE EIGHTEENTH CENTURY, PIERRE FOUCHARD, THE FATHER OF MODERN DENTISTRY, TURNED A CRAFT INTO A PROFESSION. (PHOTO, COURTESY OF "DENTAL COSMOS.")

the pulpless tooth. In treating the most insignificant carious cavity the dentist is performing an operation which ten or twenty years later may permit or prevent death by heart failure or long illness by kidney disease or some other disease.

Such a responsibility, though of long range, is great. It demands thoroughness and meticulous care. It influences the selection and application of the filling material which will heal the carious wound in the tooth after the surgical removal of diseased dentin and the shaping of the cavity are completed. It dictates the dentist's entire policy and makes it a more time consuming policy than the slap-dash method of those early blissful days of ignorance.

To inaugurate such a policy in a mouth which heretofore has been a stranger to it requires much time and effort.

One of the greatest handicaps confronting the dentist in his attempts to prevent and control dental disease is the patient's procrastination. Usually it is the result of fear, the fear of being hurt. It is a heritage from the past but a powerful deterrent nevertheless.

One of the most encouraging elements in the outlook for ultimate control of the basic dental diseases, aside from the scientific progress of dentistry itself, is the progress that has been made in conquering pain.

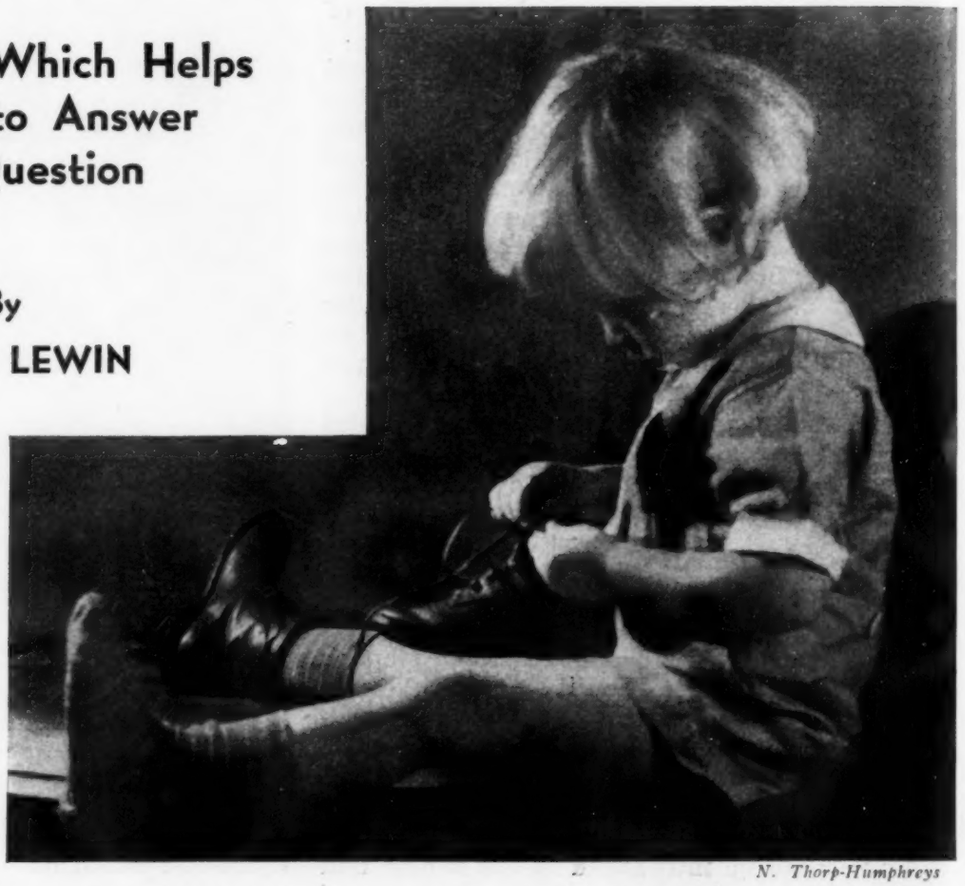
[NOTE.—In the November issue, Dr. McLean's topic will be "The Conquest of Pain."]

What About Your Child's Feet?

An Article Which Helps Mothers to Answer This Question

By

PHILIP LEWIN



N. Thorp-Humphreys

"How much alike
Are men and shoes!
For instance, each
A soul may lose.
When shoes wear out,
They're mended new;
When men wear out,
They're men dead, too."

SO MUCH depends on the care of the child's feet in determining their comfort and usefulness during adult life that any attention given early will be its own reward in later life. The purpose of this article is to help mothers take care of their children's feet properly and to advise them to be on the lookout for defects.

A man or woman is a grown-up child modified by contact with the outside world. Just as the period from birth to 5 years is most important in the mental development, so it is important in the physical development.

In order to understand the care of the child's feet one must consider that they are made up of bones, joints, muscles, tendons, nerves, blood vessels, skin and nails. The care of the feet includes attention to all these structures. The function of the foot is to supply an organ of locomotion that is resilient or springy, in order to avoid jars to the brain, the spinal cord and the abdominal and pelvic organs. Anything that interferes with that function may affect the entire body.

The causes underlying foot disturbances are concerned with several factors; namely, congenital defects, heredity, occupation, injuries, infections, infectious diseases, obesity or overweight, and arthritis. Mild injuries include those produced by hard floors, cement sidewalks, playrooms and playgrounds. Shoes, hosiery, the automobile and other present-day living conditions are other factors to be considered.

Injury may result in flatfoot. Infantile paralysis is another cause of this condition, for there may be severe mechanical strain on the muscles, ligaments and capsules of the joints and bones.

STANDING causes more strain on the arches than walking, because it does not permit any intervals of relief from weight bearing. Many persons can walk miles without tiring but suffer considerably if they are compelled to stand in a street car or elevated train for thirty minutes.

Overeating and obesity throw additional strain on the feet. Obesity causes flatfoot in two ways: first, by the strain of an excessive load as there is usually a disproportion between the weight to be carried and the size and the power of the feet and lower portion of the legs; and second, by glandular disturbances such as those most likely to be seen in boys and girls who are overweight. Knock knees and sway backs are frequently found in these children.

While the child is in the buggy, go-cart or bed, care should be taken to guard against constriction of the skin, for this condition produces trouble in the circulation. The child's foot should not be held rigidly in an unnatural position by clothing, sheets, robe or blanket. Garters that constrict, and especially circular garters, may be harmful in causing interference with the proper circulation of the limb. Tight or shrunken stockings are also liable to cause interference with the circulation of the foot and may cause ingrown toenails. Torn or rough stockings are to be avoided. It is important, in drying wet shoes, that they be laid on their sides in order that the air may circulate all through and that the water may run out. Shoe trees are valuable in maintaining the shape of the shoe and preventing wrinkles of the lining and creases in the shoes.

Ringworm of the feet is a common skin condition due to a parasite which is usually picked up in places where large numbers of people walk barefoot, as in the gymnasium and at the beach. Consequently the following precautions should be taken: Never walk barefoot except on a bath mat or on hot sand. Never put one slipper inside the other. Wipe the feet last, and wipe them dry; then apply a simple dusting powder.

The child must not go barefoot except in the sand or soft ground. During convalescence from any illness it is important that the child's feet be supported at all times during weight bearing, because this is a transition period of relaxation of the supporting structures of the arches. Bedroom slippers do not offer sufficient protection during this period.

Proper protection of the feet is especially important during convalescence from infectious diseases, such as measles, diphtheria or scarlet fever. It is during these periods that the supporting structures of the feet are weakened by the enforced period in bed and by the poisoning, or toxemia, which occurs during these diseases and is likely to "settle" in the feet.

In order to emphasize the importance of infections and blisters on the skin of the foot, one need only recall the sad experience of former President Coolidge's son. During a game of tennis, his shoe rubbed a blister on his heel, and within a short period his death occurred from the ensuing infection. One should strongly urge immediate medical attention for blisters and infections of the skin on the feet. Sprains and strains of the feet also require medical treatment. Strapping of a foot or an ankle is an art and should be done by a physician.

Club foot is a congenital condition; that is, the child is born with it. The doctor or nurse can be no more responsible for this condition than if the child were born with red hair, blue eyes or a harelip. The treatment of club foot should be started as soon as the child is born. There is an erroneous or superstitious opinion that any condition with which the child is born should not be treated. Some of these little people are allowed to go for days, months and even years without treatment, and this attitude is responsible for many of the cripples who are seen on the streets today. The treatment during the early stage is comparatively simple.

For the abnormal foot with weakness of the supporting structures of the longitudinal or transverse arches, a large number of special exercises have been prepared.

The high-arched foot is a hereditary or familial characteristic, and it is usually a weak type of foot unless especially trained. A short heel tendon may cause considerable discomfort and disability. It prevents the child from wearing low heeled shoes with comfort and prohibits him from engaging in certain types of athletics.

Reference is frequently made to a "broken arch," but this term is used entirely too loosely

FOOT NOTES

Obtain a shoe that has the shape of your foot.

Fit your feet and not the other person's eye.

The most important shoe measurement is from the tip of the heel to the middle of the big toe joint. This point should come opposite that point of the shoe where the shank goes over into the sole.

It should not be necessary to "break in" shoes.

The object of modification of shoes is to give support and to compel the wearer to walk over the proper walking angle.

The purpose of exercises is to strengthen the supporting structures of the arches and to stimulate the circulation.

The aim of massage is to increase the circulation of the muscles of the feet in order that they may grow stronger by the exercises.

The purpose of contrast sprays, that is alternating hot and cold, is to furnish a tonic for the nerves, blood vessels, muscles and ligaments.

Overeating is usually reflected in the form of painful feet as well as pain in the abdomen.

Overeating may cause "foot dyspepsia."

Obesity throws additional strain on the feet.

Flat feet are not necessarily painful feet.

Rheumatic flat feet are exceedingly painful and stiff.

A slight degree of toeing in may be a desirable condition.

Flatfoot and a weak back go together all too frequently. Keep your back flat and your feet arched.

Remember that no matter how long you live you have to carry your feet and your feet have to carry you.

Cramping your feet will cramp your natural style.

Put your pride in your pocket and your feet in proper shoes.

and is frequently applied to cases that are in reality weak feet; in some instances, rheumatism is also present. Most of the flat feet that are seen in children are really weak feet that are out of balance. Some of the apparent foot disturbances are in reality disturbances of the muscles of the thigh; that is, one group of muscles is stronger than the other, and this causes inward or outward rotation of the entire leg and foot. Some of the conditions which can be recognized by the mother are poor foot posture, toeing in, crooked toes, underriding toes, overriding toes, overlong toes, short toes, missing toes, supernumerary or extra toes, and fused toes, where two or more are united.

The physiologic method of treating minor foot disturbances includes proper shoes of correct shape, size and construction. A proper shoe has a straight inner border line, a round toe, correct width of shank, a rigid or semirigid shank, a heel of moderate height and a snug waist.

Modifications of the sole or heel, or both, are frequently of much value. Exercises, massage and contrast sprays are the best tonics for the feet. The muscles need exercise and massage. The nerves, blood vessels and skin are kept in good tone by contrast bathing or spraying and massage. Care of the skin includes bathing, drying and powdering. The nails should be cut straight across except in the case of the ballet dancer, who must cut the edges. Ingrown toe nails are due to pressure of shoes or hosiery.

Proper walking prescribes that the feet should be parallel. Weight should first be borne on the heel, then transmitted to the outer border of the foot and then to the inner border of the toes, coming up with a spring to the step. Nothing but exercises can strengthen the power of the supporting structures of the feet.

Dancing is excellent exercise because of the foot training, although much of it is hard on the arches at first. There are, indeed, some children for whom it is harmful until their feet have been strengthened by special exercises and modified shoes. Dancing may be started at the age of 4 or 5 years. Swimming is fine exercise. Roller skating and ice skating are also good, but both may be harmful at first unless proper precautions are taken. The child should wear an "ankle corset," a wide figure-of-eight webbing or leather strap over the stocking or a leather skate strap outside the shoe, making a figure-of-eight which includes the ankle. Jumping the rope is good exercise, but the child should not jump flat-footedly.

Massage of the feet and legs should be given twice daily with olive oil or cocoa butter. The movement should be deep and rotatory. In the case of painful feet in older children, an anodyne or pain-relieving ointment should be used. Contrast foot bathing should be prescribed for the older children.

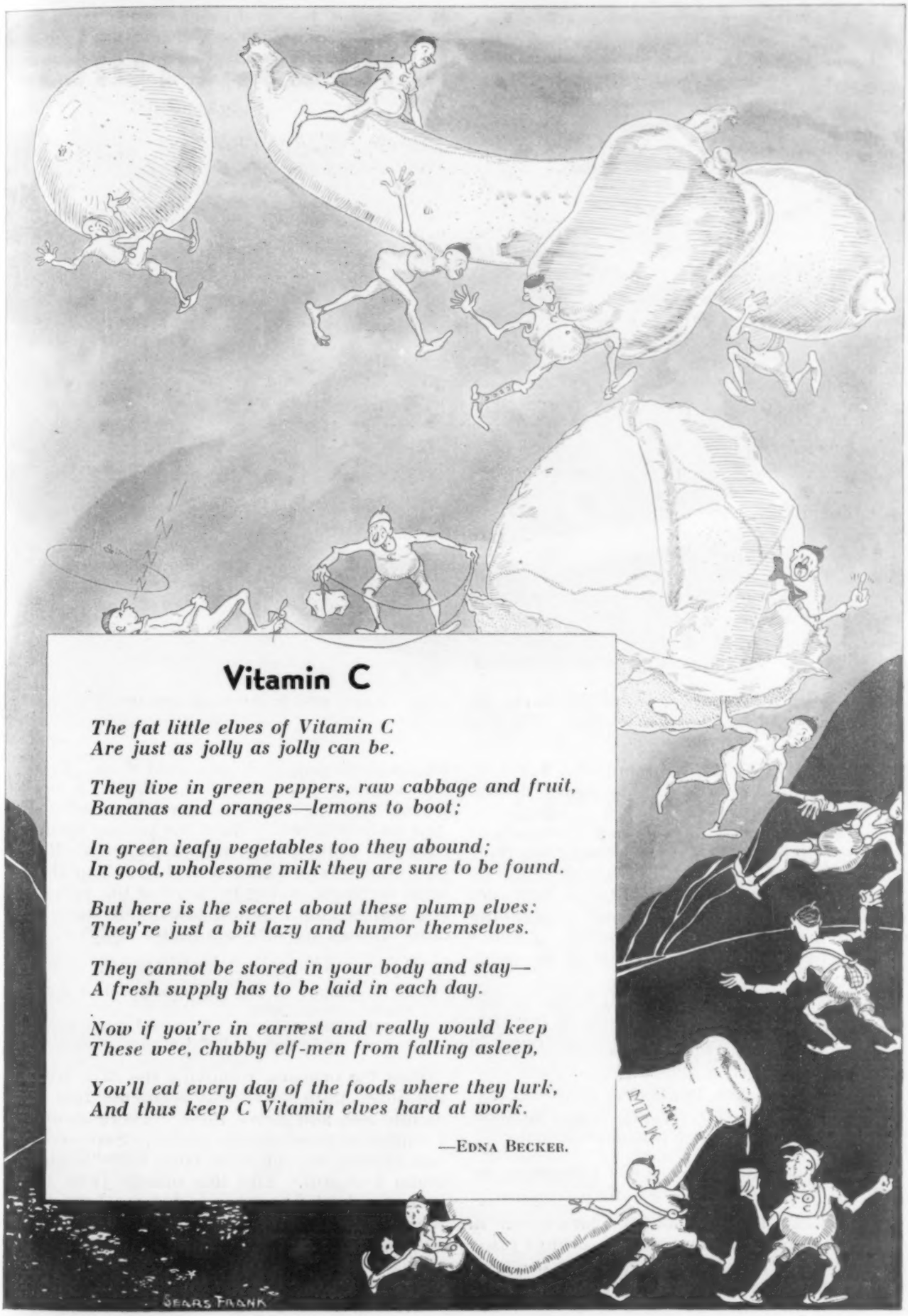
A prescription for the modification of a shoe is like a prescription sent to the druggist. If the shoes are to be modified it should be done according to the prescription made by some one who has studied anatomy, physiology, pathology and the mechanics of the foot and leg. Having the ordinary shoe man prescribe modifications of shoes is like going to a dime store for eyeglasses or having the girl behind the counter at a food show prescribe for your baby who has colic, rickets or scurvy. In many cases more harm results than if nothing at all had been done.

Many boys and girls go through childhood constantly and continuously misfitted by shoe men who expect them to "grow into" the shoes. Some children outgrow shoes and never outwear them. Others outwear them and never grow into them. High shoes are, as a general rule, the best for a child. Six hours in improper shoes may undo the good derived from wearing proper shoes six days. Shoes that are too large are harmful in that they do not afford proper support, and they tend to produce calluses. Gymnasium shoes or "sneakers" should be worn for gymnasium use only. They should enclose the ankles and should have felt pads inserted. Ballet slippers should be worn only while dancing, and they also may be padded.

Support of the longitudinal arch is obtained by means of felt pads. They afford a resilient support and thereby increase the spring of the gait. They are usually preferable to rigid supports such as those made of metal, celluloid, wood or leather. Because metal arch supports act as props or crutches, they are of doubtful value. While they do brace or hold up an arch, they do not increase the power of the supporting structures of the arch; in fact, the effect produced is generally one of weakening. Arches can be held up by resilient material which not only supports but tends to increase the strength of the supporting structures of the feet and promotes a graceful step.

The child walks on the same hard surfaces that adults do; namely, hard floors, cement sidewalks and asphalt streets. Therefore he should have the same protection that adults do; that is, a rigid or semirigid shank shoe. A flexible shoe is sufficient for those who need only exercise, but for those who need both exercise and support it is insufficient. It may be used "part time" to alternate with the rigid shank shoe.

Observe your child's foot and leg posture occasionally during his sleep. Be on the lookout for improper sitting posture or positions during rest or play, and always bear in mind that one of the worst sitting positions is one which is extremely common; namely, that in which the child sits with the legs folded, so that the heels nearly touch the buttocks and the feet are in flatfoot position.



Vitamin C

The fat little elves of Vitamin C
Are just as jolly as jolly can be.

They live in green peppers, raw cabbage and fruit,
Bananas and oranges—lemons to boot;

In green leafy vegetables too they abound;
In good, wholesome milk they are sure to be found.

But here is the secret about these plump elves:
They're just a bit lazy and humor themselves.

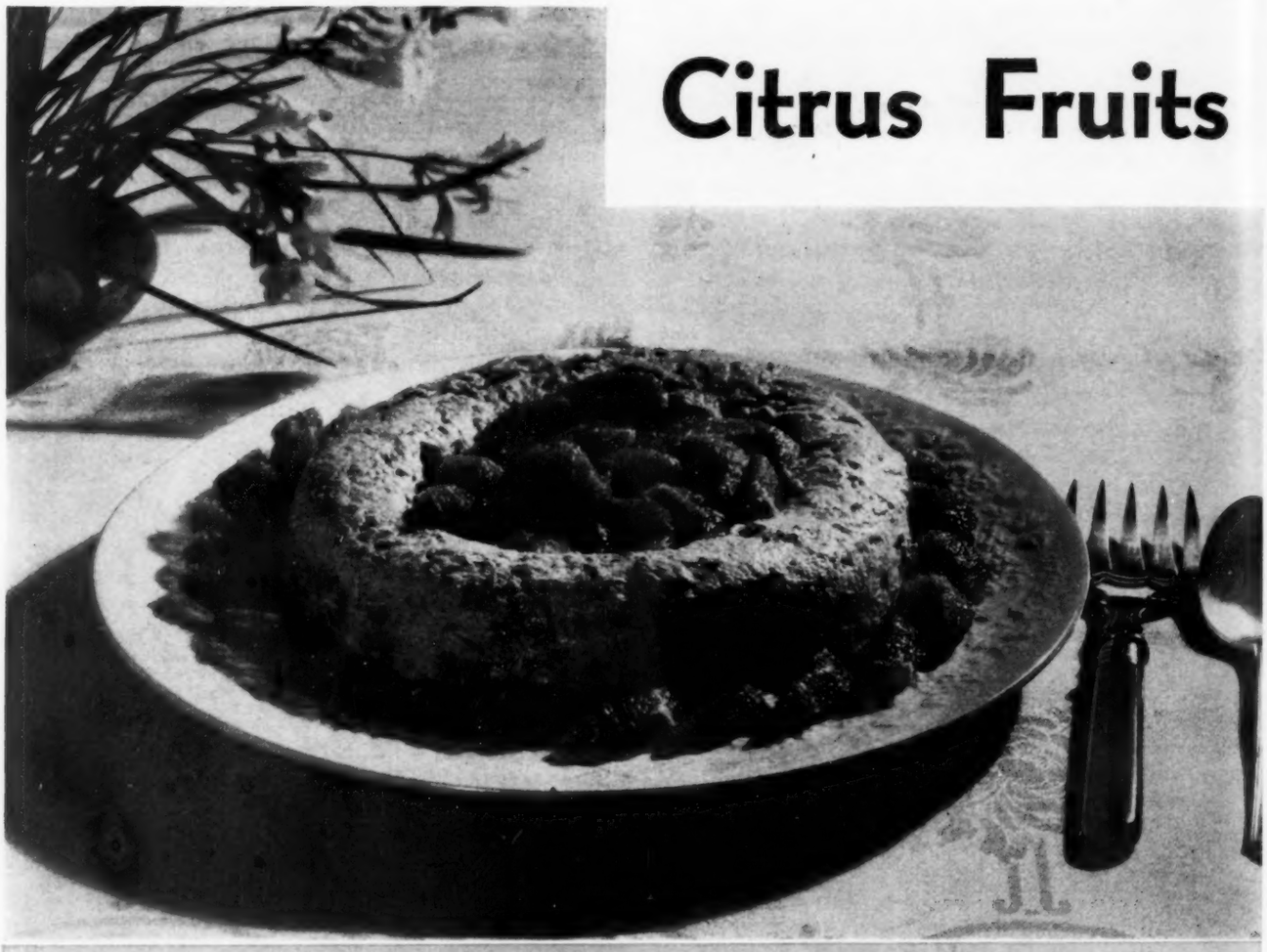
They cannot be stored in your body and stay—
A fresh supply has to be laid in each day.

Now if you're in earnest and really would keep
These wee, chubby elf-men from falling asleep,

You'll eat every day of the foods where they lurk,
And thus keep C Vitamin elves hard at work.

—Edna Becker.

Citrus Fruits



ORANGE FILLED APRICOT RING. A DELIGHT TO THE EYE AND TO THE PALATE, ADDS A SPARKLING AND APPEALING NOTE.

THE ATTRACTIVE color and fine flavor of citrus fruits are useful in many dishes. These fruits are a fair source of vitamin A, a good source of vitamin B and an excellent source of vitamin C. In the last rôle lies their greatest importance. They contain minerals and carbohydrates which counteract acidosis; thus they become highly important in planning balanced meals. The wise housewife includes in her menus as many as possible of the foods containing vitamin C.

A number of recipes that will serve to add interest to the menu as well as supply the vitamins and the other valuable contents found in the citrus fruits follow:

Orange Pecan Pie

½ cupful sugar
2 tablespoonfuls corn-starch
1 tablespoonful grated orange rind
1 cupful orange juice
1 tablespoonful butter
3 eggs
½ cupful chopped pecans
Pastry shell

Mix together the sugar and the corn-starch in the top of a double boiler; add the orange juice, the grated rind and the butter. Place the mixture over hot water, stirring constantly until thoroughly mixed. Add the beaten egg yolks, continue stirring, and cook until thick. Remove the mixture from the fire. While it is still warm, add the stiffly beaten whites of 2 eggs and whip it lightly. Have the pecans sprinkled over the bottom of a baked pastry shell, and pour the mixture into this shell. Top the pie with meringue made by beating the remaining egg whites and 4 tablespoonfuls of sugar until stiff. Brown for fifteen minutes at 325 F.

Banana Shortcake with Orange Sauce

3 or 4 oranges
1 cupful orange juice
¼ cupful lemon juice
3 tablespoonfuls corn-starch
¾ cupful sugar
Grated rind of 1 orange

Peel the oranges, removing the skin down to the juicy pulp. Cut out segments free from membrane, and halve these. There should be 1 cupful of these orange pieces. Save all juice, and express enough juice from other oranges to make 1 cupful. Add this orange juice to the corn-starch and sugar, which have been mixed together thoroughly. Stir the mixture well, and cook it in a double boiler until thickened, stirring frequently, or over a direct flame, stirring constantly. Remove it from the fire, and add the lemon juice and grated orange rind. Serve

warm or cool on biscuit shortcake with sliced bananas. This sauce does not soak into the biscuits and makes shortcake, one of summer's treats, possible during the winter months. No whipped cream is needed.

Biscuit Shortcake

2 cupfuls flour
½ teaspoonful salt
4 tablespoonfuls shortening
4 teaspoonfuls baking powder
⅔ cupful milk

Sift the flour before measuring it, add the salt, and cut in the shortening. Sift in the baking powder, and add the milk. Pat the dough together, and knead it gently for one-half minute. Cut into rounds and bake approximately twelve minutes at 450 F. Split the biscuits, butter them and cover with bananas and orange sauce.

California Angel Cake

1 cupful cake flour
1¼ cupfuls sugar
1½ cupfuls egg white
¼ teaspoonful salt
2 tablespoonfuls cold water
1 teaspoonful cream of tartar
½ teaspoonful orange extract

Sift together the flour and sugar after each has been sifted once before measuring. Add the salt and cold water to the egg whites. Beat until frothy; then add the cream of tartar, and beat until stiff but not too stiff; add the flavoring, and fold in the dry ingredients. Bake for forty minutes at 325 F. Cover the cake with orange frosting, and sprinkle this with grated bitter chocolate.

Orange Frosting

1 egg yolk
1 teaspoonful butter
1 teaspoonful lemon juice
1 tablespoonful boiling water
1½ pounds powdered sugar
1 tablespoonful orange juice
1 teaspoonful grated orange rind

Beat the egg yolk, and add part of the sifted confectioner's sugar; add the butter, beat well, add more sugar, then boiling water, more sugar, the fruit juices and finally enough sugar to make it stiff. Beat the frosting until it tastes smooth and creamy instead of gritty or sugary. An electric mixer produces fine results, and the ingredients can be added without stopping the beating.

This frosting is suitable for covering small cakes or squares of cake.

Orange-Chocolate Pie

2 egg yolks
½ cupful flour
¾ cupful sugar
⅛ teaspoonful salt
1½ cupfuls milk
1 cupful orange juice
1 teaspoonful grated orange rind

Beat the egg yolks, add the sifted dry ingredients and then the hot milk. Cook thoroughly, stirring constantly, and add the orange juice and rind. To one half of the mixture add one square of melted chocolate, and mix it thoroughly; an egg beater may be used if desired. Cool the mixture, and pour it into a pie pan which has been lined with vanilla wafers rolled fine and pressed into place. Cover with the light colored mixture, and over all pile a meringue made of the stiffly beaten whites of 3 eggs into which 6 tablespoonfuls of sugar have been beaten until dissolved. Bake for fifteen minutes at 325 F. Serve cold.

Orange Doughnuts

2 eggs
½ cupful sugar
¼ teaspoonful salt
½ cupful thick cream
2 cupfuls flour
2 teaspoonfuls baking powder
½ cupful orange juice
1 teaspoonful grated orange rind

Beat the eggs until light; add the sugar, salt and cream. Sift the flour once before measuring it; add the baking powder and soda to the flour, and sift it again. Add this to the egg and sugar mixture, and then add the orange juice and rind. Drop by teaspoonfuls into fat at 375 F. Fry the doughnuts until brown. When they are cool, frost them with orange butter icing, and roll them in chopped walnuts or other nuts. These are about the right size when the dough is dropped by teaspoonfuls into the frying kettle.

Orange Butter Icing

⅓ cupful butter
2 cupfuls powdered sugar
1 tablespoonful boiling water
1 tablespoonful orange juice
1 teaspoonful lemon juice

Beat the ingredients together until the sugar loses its grain and is smooth and creamy. The mixture must be stiff enough to be handled, yet thin enough to be spread.

Apricot Ring

1½ cupfuls dried apricots
3 cupfuls water
¼ cupful sugar
1⅛ tablespoonfuls granulated gelatin
3 tablespoonfuls cold water
2 tablespoonfuls lemon juice
¼ teaspoonful salt
⅛ teaspoonful cayenne
½ teaspoonful Worcestershire sauce
⅓ cupful mayonnaise
1½ cupfuls heavy cream
4 oranges

Wash the apricots, add the water, and boil until the fruit is tender, or about thirty minutes, when the water will be well evaporated. Add the sugar, and boil the mixture five minutes longer; remove the fruit from the fire. When it is cool, rub it through a sieve or ricer. Soften the gelatin in cold water, melt it over hot water, and add it to the apricots. Add lemon juice, salt, cayenne, Worcestershire sauce and mayonnaise. Mix this well, and then fold in the stiffly beaten cream. Pour into a ring mold, and chill. Unmold the ring on a bed of lettuce, and fill the center with sections of orange; orange sections

By SUSAN BEACH

may also be arranged around the ring. Serve with French dressing. The lettuce may be omitted, and a variation can be had by using grapefruit in place of the oranges.

Orange Juice Cocktail

Express the juice of oranges which have been chilled in the refrigerator for about two hours, or until cold. Remove the seeds; if a strainer is used, it should be coarse so that the fine pulp will not be removed. To each 8 ounce glass of orange juice, add the juice of one-half lemon to give zest and flavor and to increase the vitamin C potency. Place the cocktail glasses in a bowl of ice to chill before serving.

The orange juice should not be thinned with water or sweetened, for the average taste, although some individuals may wish to add sugar. One glassful in the morning and another at night, totaling 1 pint a day, is the amount that has been used with excellent results for adults having bad conditions of teeth and gums. This, in addition to a well balanced diet, produced marked improvement.

The flavor of orange juice is impaired by letting it stand before it is served.

Prune-Grapefruit Salad

½ cupful American cream cheese
½ cupful thinly sliced stuffed olives
¼ cupful mayonnaise
2 cupfuls cooked prunes
3 grapefruit
French dressing

Cut the cheese fine, and mix it with the olives and mayonnaise. Pit the prunes, and refill them with the cheese mixture. Remove the sections of grapefruit. Alternate the pieces of grapefruit and the filled prunes on a bed of lettuce, allowing 3 prunes and 4 pieces of grapefruit to a serving. Serve with French dressing.

Orange Mousse

1 pint heavy cream
2 tablespoonfuls sugar
1 teaspoonful vanilla
Yellow coloring
1 teaspoonful lemon juice
1 teaspoonful orange juice

Whip the cream until it is stiff, but not too heavy, as overbeaten cream may have a buttery taste after it is frozen. Beat in the sugar and flavorings, then add orange or yellow coloring until the desired shade is reached; do not add too much, as the color should be delicate. Pour the mousse into a refrigerator tray and freeze, or pack a covered mold in salt and ice. If the

CRISPLY COOL, RICH IN COLOR AND IN VITAMINS, PRUNE-GRAPEFRUIT SALAD IS A MOST SUCCESSFUL APPETITE TEASER.

mixture is not frozen too hard, it is much improved by the addition of two finely diced and drained oranges; however, they should not be frozen so long that it is difficult to bite into them. The fresh, tender, chilled fruit is a distinct addition.

Orange Gingerbread

¼ cupful butter
½ cupful lemon juice
2 egg yolks
½ cupful sugar
¼ cupful molasses
1 teaspoonful ginger
½ teaspoonful cinnamon
¼ teaspoonful cloves
1 teaspoonful soda
1⅓ cupfuls flour
2 egg whites

Cream the butter, add the sugar and egg yolks, and cream the mixture well. Add the lemon juice, molasses and sifted dry ingredients. Lastly, fold in the stiffly beaten egg whites, and pour the batter into a shallow, greased pan. Bake it in a moderate oven, 350 F., about twenty minutes. Let the cake cool. When ready to serve, cut it into individual pieces, slice crosswise, and put the pieces together with ½ pint of whipped cream into which has been folded ½ cupful of powdered sugar and 1 cupful of drained orange pieces.

Cereal Pudding

2 cupfuls milk
⅓ cupful yellow corn-meal
¼ cupful honey
½ teaspoonful salt
3 strips fresh orange peel
2 eggs
1 teaspoonful vanilla
¾ cupful seedless raisins

Scald the milk and the orange peel. Add the corn-meal, stirring it constantly to prevent lumps. Add the salt and when the mixture has cooked for thirty minutes, add the raisins, honey and egg yolks. As the pudding is removed from the fire, the orange peel should be taken out of it and the vanilla added. Beat the egg whites until they are stiff, and add the hot corn-meal. Blend carefully, and pour the pudding into individual molds. Chill, unmold, and serve with milk or cream.

Peppy Pudding

3 eggs
⅓ cupful sugar
½ teaspoonful salt
½ teaspoonful cloves
1½ cupfuls stale bread crumbs
1 cupful seedless raisins
1 cupful raisin juice
¼ cupful chopped nut kernels
1 teaspoonful grated orange rind
½ cupful orange juice

Beat the egg yolks, and add the sugar and cold raisin juice, which has been saved after the raisins have been boiled for five minutes, the orange rind, orange juice, salt and cloves. Combine this mixture with the bread crumbs, raisins and nuts. Fold in the stiffly beaten egg whites. Pour the mixture into a buttered pudding dish, set in a pan of hot water, and bake it for thirty-five minutes in an oven at 350 F. Serve the pudding hot with vanilla pudding sauce.

Orange-Strawberry Titbits

Wash and drain strawberries thoroughly dry, leaving the hulls on. Dip each strawberry point, or about half of the berry, into orange frosting. Let the berries stand on waxed paper until the frosting is hard. Group them on the hors d' oeuvre plate, alternating them with orange segments which have been rolled in honey or maple syrup and then thickly coated in coconut.

An accompaniment for the titbits would be small hors d' oeuvre crackers, or other unsweetened crackers, piled with avocado pulp which has been mixed with a small amount of lemon juice and French mustard and beaten until of the consistency of whipped cream.

Orange-Cheese Salad

2 cakes cream cheese
¼ cupful chopped and drained maraschino cherries
½ cupful chopped walnuts or pecans
4 oranges

Peel the oranges, and remove the segments by inserting a knife next to the membrane. Mix the cheese, nuts and cherries. The use of green cherries instead of red makes an attractive color scheme. Press the mixture into mounds on waxed paper, and arrange orange segments on the sides of each mound. When the mounds are thoroughly chilled, serve them on lettuce with whipped cream.

Orange and Cashew Nut Salad

On lettuce-covered salad plates arrange circles of sliced oranges. Circle the center of each orange slice with three or four cashew nuts, and serve with any desired dressing. The sweet, crisp flavor of the cashew nut goes well with the orange.

Cinnamon Orange Slices

1 cupful cinnamon candies
1 cupful sugar
2 cupfuls water
3 oranges
1 slice lemon

Cut the oranges into crosswise slices, including rind and all, making about 12 slices, each ¼ inch thick. Combine the sugar, water and candies, and cook until the candies dissolve. Add the orange and lemon slices, and cook slowly in a covered casserole for fifteen minutes and then uncovered for forty-five minutes. Serve the slices cold with meats. They may be sealed in sterilized jars for future use. These slices are attractive served with the meat course as they are so colorful and, although sweet, they still have the orange flavor with the subtle taste of cinnamon. They are also excellent when cut into quarters and used to garnish ice cream.

Meat Relish

1 cupful seeded raisins
1 tablespoonful orange rind
¼ cupful orange juice
1 tablespoonful honey

Chop the raisins or cut them with scissors. Only the yellow portion of the orange peel is used; this is cut into fine strips. Mix all ingredients thoroughly, and serve the relish with hot or cold meats.

Prune-Pineapple-Grapefruit Marmalade

3 cupfuls cooked prunes
1 cupful crushed pineapple
⅓ cupful thinly sliced grapefruit peel
½ cupful grapefruit juice
1½ cupfuls prune juice, or juice and water
2 cupfuls sugar

Pit the prunes, and cut them into pieces. Use only the yellow portion of the grapefruit peel, cutting this into fine strips with scissors. Combine the prunes, pineapple, grapefruit peel and juice. When the mixture boils, add the sugar, and continue boiling for thirty minutes, stirring frequently to prevent burning. Pour it into hot glasses, and seal with paraffin. This quantity fills 4 half-pint glasses.

Hot Spiced Orangeade

1½ cupfuls water
¾ cupful sugar
¼ teaspoonful ground cloves
¼ teaspoonful ground ginger
4½ cupfuls orange juice
¼ cupful lemon juice

Bring the water, sugar and spices to the boiling point, and let them boil for one minute; then add the fruit juices and bring the mixture just to the boiling point. Serve at once in twelve cups or punch glasses with a hot toasted or partially melted marshmallow floating on top of each serving. This recipe can be given a festive note by painting faces on the marshmallows with chocolate or red coloring matter or by sticking cloves into them instead of toasting them. As these float on the hot punch, they are dissolved by the punch.

Candied Orange Peel

Save orange peelings in the refrigerator; as many or as few as desired may be candied at a time. Cut them with scissors into strips about ¼ inch across and 2 inches long, or of any desired size, or into fancy shapes. Before cutting, remove all the inner membrane clinging to the peels. Boil the peel in enough water to cover it. Pour this off, and again cover the peel with cold water, and boil it until tender. Drain it, rinse it well and drain again. Put it into syrup made by mixing 1 cupful of sugar and 1 cupful of water; bring this just to the boiling point. Make enough syrup to cover the peel completely. Boil slowly to about 220 F. The temperature may vary from 218 to 222 F. and still give a tender, good product. If a heavy pan and sufficient syrup are used with low heat, stirring will not be necessary, except toward the last when the syrup becomes thick and flakes or sheets off the spoon like jelly.

Pour the peel out on a wire cake cooler or in a large wire basket, allowing all the syrup to drain off. As soon as it is thoroughly cold, roll the peel in granulated sugar, separating the pieces. Spread it out to dry over night, and then place it in fruit jars to be stored in a cool, dry place. Orange peel is much more delicious if it is made tender by boiling it before placing it in syrup. Do not put the peel directly into a thick syrup. Use a thin syrup and cook it down; then cook the peel in the syrup slowly and not too long.

Lemon Prunes with Sweet Chestnuts

½ pound sweet chestnuts
2 cupfuls prunes
3 cupfuls water
1 clove of garlic
1 lemon
¼ cupful water

Boil the chestnuts for fifteen minutes, and then peel them. Combine the prunes and water; add the garlic and the lemon, cut into thin slices, and boil for fifteen minutes. Add the chestnuts and sugar, and continue boiling for thirty minutes. Chill, and serve with meats.

Baked Ham with Orange

¾ cupful orange juice
1 middle cut slice of ham, 1 inch thick
6 slices of orange, ¼ inch thick
¼ teaspoonful mustard
¼ cupful brown sugar
2 tablespoonfuls white sugar
1 cupful hot water

Pour the orange juice over the ham, which is then spread with mustard and brown sugar. Lay the slices of orange over this, and sprinkle white sugar over all. Pour water around the edge, and bake the ham in a covered dish in an oven at 350 F. for one hour, or until the ham is tender. Any remaining liquid may be thickened with corn-starch or flour and used as a sauce for the ham.

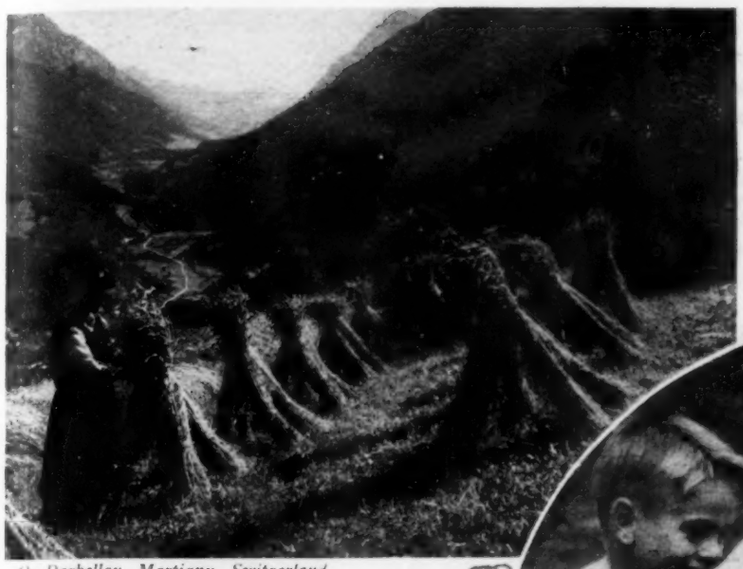
Sunday School

Little girls who sit so still
Very likely hope they will
Be selected from their section
To take up this week's collection.

Little boys who fail to sing
Are seldom chosen for a thing;
And never, if they cut up capers,
Can be allowed to pass the papers!

—Beatrice Creighton.

Odes to October



O. Darbellay, Martigny, Switzerland

ONCE MORE WITH HARVEST
SONG AND SHOUT
IS NATURE'S BOLDEST TRIUMPH
TOLD. —John G. Whittier

Century-Allen

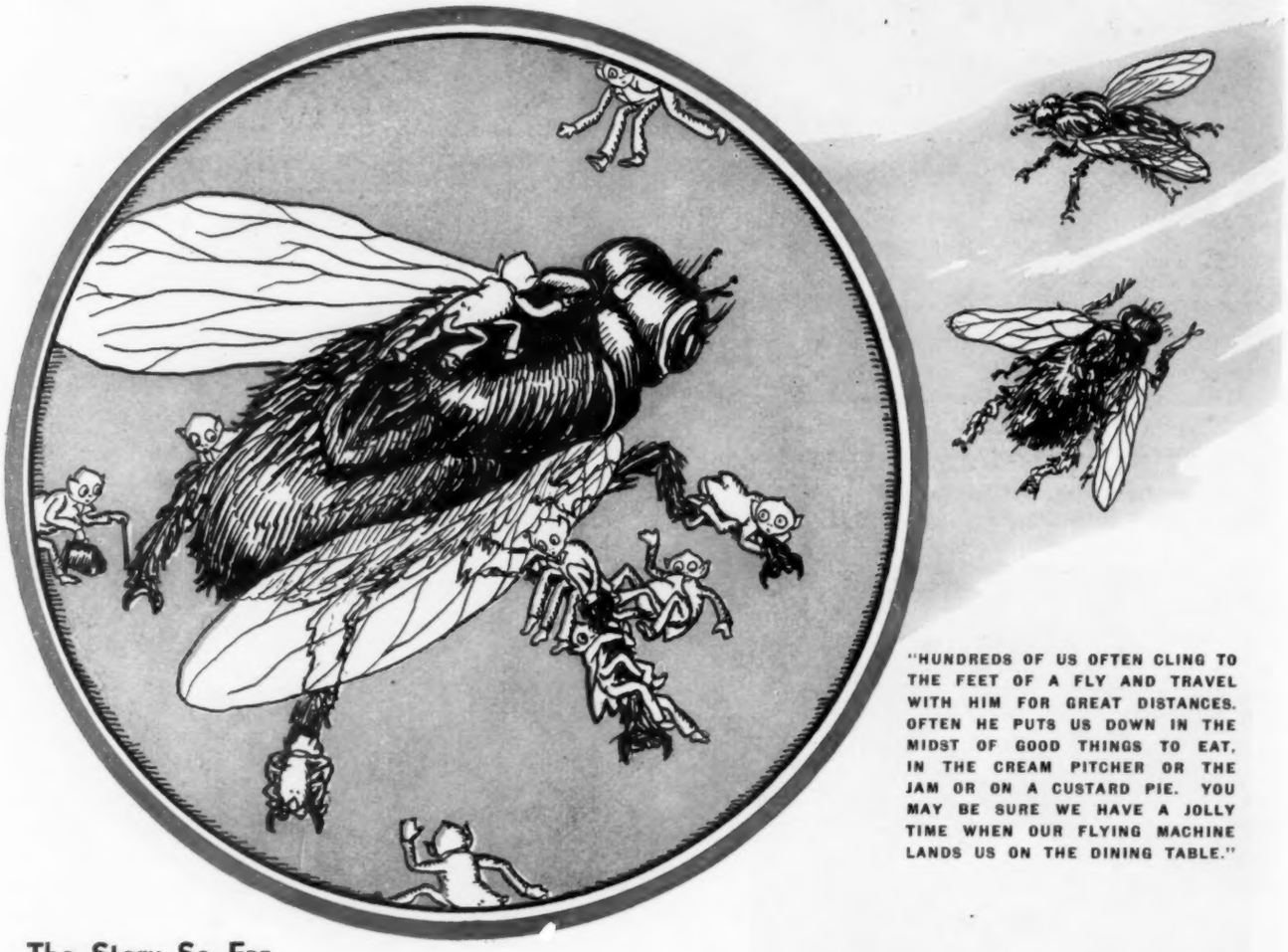
O, IT SETS MY HEART A-CLICKIN'
LIKE THE TICKIN' OF A CLOCK,
WHEN THE FROST IS ON THE PUNKIN
AND THE FODDER'S IN THE SHOCK.
—James Whitcomb Riley

Century-Allen

THE INDIAN SUMMER,
THE DEAD SUMMER'S
SOUL.
—Mary Clemmer

Ewing Galloway

HOW GERMS TRAVEL



"HUNDREDS OF US OFTEN CLING TO THE FEET OF A FLY AND TRAVEL WITH HIM FOR GREAT DISTANCES. OFTEN HE PUTS US DOWN IN THE MIDST OF GOOD THINGS TO EAT, IN THE CREAM PITCHER OR THE JAM OR ON A CUSTARD PIE. YOU MAY BE SURE WE HAVE A JOLLY TIME WHEN OUR FLYING MACHINE LANDS US ON THE DINING TABLE."

The Story So Far

LEFT alone in his father's study on a rainy afternoon, Bill finds himself peering into the microscope and suddenly discovers a new world, peopled by tiny microbes to whom Bill seems a giant. Much to his surprise he finds that he is able to talk with them, and he learns many surprising and interesting things about their lives. He finds that though these tiny germs seem to be weak they are indeed very powerful and that a large army of them can grow in a very short time; that they are afraid of sunlight but that they revel in dirt, and that they may spread diseases and sometimes death.

Chapter III of
A MODERN ALADDIN'S LAMP

By J. F. Rogers

"IS it true," I asked, "that you can ride about on the particles of dust?" "Oh, yes!" the germs replied, "hundreds of us sometimes take trips in this way, for what you call a particle of dust seems very large indeed to us. We like even more to travel about on insects; they are our horses and flying machines. Hundreds of us often cling to the feet of a fly and travel with him for great distances. We find our way by this means into strange places. Often the fly puts us down in the midst of good things to eat, in the cream pitcher or the jam or on a custard pie. You may be sure we have a jolly time when our flying machine lands us on the dining table. Some of you men have been preventing this by putting up those horrid things you call screens, but there are still many homes into which we can ride."

"Pardon me," I said, shuddering, "you have such a bad reputation that I shall almost be afraid to eat anything hereafter."

"Oh, do not let what we say spoil your appetite; but even if it does, I am telling the truth, and you ought to be glad to know the truth. There are others of our kind too that travel about on grains of dust and by means of insects,

so it is wise for you to be as clean as you can and to see to it that we do not have the chance to get into your throat or lungs or stomach. We warn you to see that your milk and other foods which you do not cook come from good, clean places, for we bacteria like dirt better than cleanliness."

"Well," I said, "there is no accounting for people's tastes."

"Humph!" spoke up the bacterium, "we know many people who do not keep their houses clean. We like such people for they afford us good board and lodging. We also like darkness better than light. Please don't tell any one these secrets of ours."

"Well," I said, "people say the evil one also prefers darkness to light."

"I am very sorry," he replied, "that I should have added to your already poor opinion of us. You seem to have forgotten what you must have read, that most kinds of bacteria are a great help to you human beings and that you could not get along very well without us. You must know the whole truth and not merely one little corner of it. After all, man doesn't know very much, not nearly so much as he thinks he does. You show your ignorance by your stupid and unnecessary fear of us. You are like the ostrich, which, when frightened, sticks its head in the sand instead of using its wits to escape from its foes. You are often afraid of your own shadow. If you will just follow the directions that I have given you about keeping flies and other insects away from the house and about paying attention to the cleanliness of the air you breathe, of your food and drink and of the hands with which you eat your meals, and if you will see to it that the sick and especially persons with colds do not distribute us by coughing or sneezing at their neighbors, you will not need to turn pale and quake in your boots every time you hear the word 'microbe.'"

"These things you have told me I must try to remember," I said. "I'll write them down for it is no fun to be sick."

I took up a pencil for the purpose and touched the lead to my lips as I had done a great many times before, when I heard the voice say very distinctly, "Why, you have already forgotten what I have told you. How do you know whose lips that pencil point has touched before, and how can you tell but that it is covered with dangerous germs? Millions of us could stand on the point of a pencil. I am sure you will be more thoughtful hereafter and not wet your pencil before you begin to write. And I'll tell you another thing—it is neither cleanly nor safe to turn the leaves of a book by first moistening your fingers with saliva from your mouth. It soils the pages, and if you do not carry germs from the pages to your own mouth, you may transfer some from your mouth in this way to the next person who uses the book. And don't forget to turn your head or to place a handkerchief over your mouth when you have to cough or sneeze while talking with other people. Germs from your nose or throat might in this way reach theirs.

I told the bacterium that I had learned a very practical lesson and that I would not forget his advice in the future.

"Of course," he continued, "I can't promise that even if you follow these simple directions you will not be sick. There are other ways in which you must take care of yourself. You must eat sensibly and have plenty of sleep. You must try not to get your clothes wet or your body surface chilled. We bacteria usually are blamed for sickness when the blame often lies with the person who is sick. Besides, there are many, many diseases with which we have absolutely nothing to do; but about these things I cannot take time to tell you now."

(To be continued)

"WHY," SAID THE VOICE, "HOW DO YOU KNOW WHOSE LIPS THAT PENCIL POINT HAS TOUCHED BEFORE, AND HOW CAN YOU TELL BUT THAT IT IS COVERED WITH DANGEROUS GERMS?"

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Opportunities for Health Teaching in the Curriculum

THE TENTH ARTICLE IN A SERIES ON THE CLASSROOM TEACHER AT WORK

THERE WAS a time when it was believed that the teacher was accomplishing her purpose in health education if she taught her pupils formally from a textbook for a certain number of minutes each day or for a certain number of days during the school year. There was a naive assumption that such instruction would transfer to the activities of the child's day and life. This assumption is still adhered to by many teachers; but in our best schools, teachers realize that the amount of such transfer is disappointingly small. They approve of health textbooks and special periods devoted to health teaching, but they believe that health is a mode of living during every hour and every minute of the day. Considered from a broad point of view all the activities of the school—thinking, feeling and doing—represent the curriculum. The latter term is just another word for the whole life of the school. Therefore the teacher's problem is to see that the child learns and lives healthfully all the time in school.

The school curriculum on every level contains something that is of value in the pupil's education in health. The kindergarten children as they play, rest, sleep, eat, go to the toilet and wash their hands need careful training. They may dramatize health activities in plays and games and projects. The stories told to them may have health content.

Through primary reading and dramatics, children may give expression to their experiences so that others may share them and learn to meet new situations.

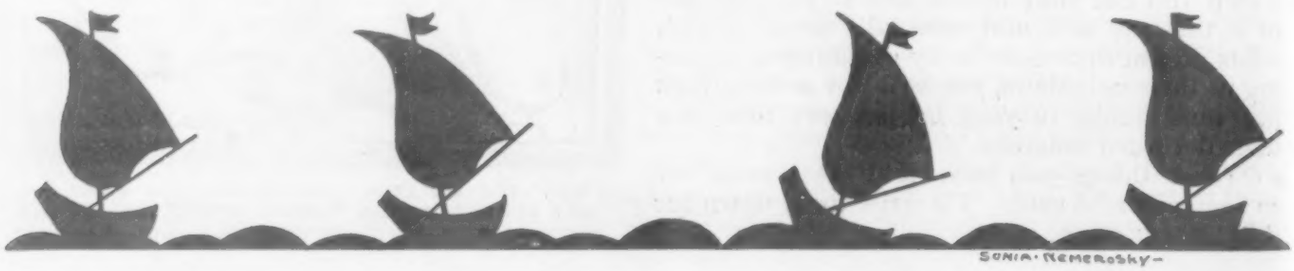
Nearly every school subject or activity throughout the grades and high school may contribute significant material on healthy living. Consider, for example, the rich possibilities in geography and history, now frequently referred to as the social studies. Both of them concern themselves with the adjustments made by man. They tell about houses, clothing, food, climate, transportation and the mistakes and achievements of man in gaining mastery over the world. Our writers of textbooks in geography and history have been strangely myopic as to the proper place of health material in their instruction, but through stories, lectures and proper references, teachers with a health consciousness may introduce much of this health content in their regular instruction. General science, physical education and home economics contain much fundamental and basic material essential to an understanding of health principles. They also offer many opportunities for experimentation with daily facts involved in daily living.

Every classroom teacher and every special teacher may further the health of her pupils by building into subjects and activities those things that make for a broader knowledge and practice of health. Such a practical and comprehensive policy is destined to bring results.

Health Teaching in October

THE MONTH of October is associated in the child's mind with two important days, Columbus Day and Hallowe'en. He looks forward to both of these with keen satisfaction. The first means a national holiday, a respite from school work, and often the excitement that goes along with a public celebration; the second, a releasing of certain inhibitions which, while attractive, often lead to the destruction of private and public property and injury to human life. It is possible for the teacher to tap these interests and guide them in the service of health and safety education.

In most schools it is customary for the teacher to review historical facts about Columbus and his discovery of the new world so that the children will better appreciate the significance of the day. Few teachers have realized the chance to consider this great adventure from the health point of view. At the time of Columbus, little was known about the cause, prevention and cure of disease. The ships of Columbus were so small that they might be compared with fishing boats that ply their trade along our Atlantic coast except that they were not nearly so seaworthy, comfortable or sanitary. Lack of fresh fruits and vegetables was responsible for scurvy. Dentistry was unknown although sailors especially suffered cruelly from caries. Teaching may often be made effective by contrasts. The voyage of Columbus might be con-



trasted with the Antarctic explorations of Admiral Byrd under modern conditions. A discussion of Columbus might well open up the subject of the importance of the sailor's health throughout the ages. "Ships," a recent book by Hendrik Willem van Loon would be an excellent introduction to this whole subject. There are many pages of fascinating material in it concerning health.

The life of Columbus also suggests some excellent mental hygiene. He faced his problem with well thought out plans and also with faith and courage. Joaquin Miller's poem "Columbus" would be greatly appreciated by children in the upper grades. It begins:

Behind him lay the gray Azores,
Behind the Gates of Hercules;
Before him not the ghost of shores,
Before him only shoreless seas.
The good mate said: "Now must we pray,
For lo! the very stars are gone.
Brave Adm'r'l, speak! What shall I say?"
"Why, say: 'Sail on! sail on! and on!'"

The approach of Hallowe'en offers the teacher a chance to discuss and plan with her pupils and their parents ways in which they may have wholesome fun.

The need of health and safety instruction is obvious if one but considers what happens in even our best neighborhoods. Usually this season is looked on as a time for unbridled license. Street lamps are broken, leaving the street in darkness; window blinds are removed; serious accidents are caused by pea-shooting and other pranks, and unjustifiable acts are committed in the name of fun.

What kind of Hallowe'en is usually celebrated in your neighborhood? What can you do to help make it safer and happier?

❖ SOLVING HEALTH EDUCATIONAL PROBLEMS ❖

The special articles under "Solving Health Education Problems" in this number of the School and Health Department of HYGEIA have been prepared under the direction of Dr. John Sullivan, supervisor of health education of the Boston public schools, who has contributed the leading article. These stories from the Boston schools represent samples of the most noteworthy achievements in these schools during the past year.

The editor of this department seeks to present to teachers and educators examples of the best health teaching for the inspiration and guidance of HYGEIA readers. He cordially invites supervisors of health education and school administrators to prepare similar articles.

Are the schools of your town, city, county or state doing health education work of which you are proud? If so you will want to share your success with others. If you are interested, write to the editor and outline any plans you may have for a group contribution.

SAFETY PROBLEMS THROUGH THE YEARS IN THE BOSTON PUBLIC SCHOOLS (1635-1935)

JOHN P. SULLIVAN
Supervisor of Health Education
BOSTON

Problems of safety began with the founding of the first schools in America. The practical methods of dealing with these problems have varied through the years because of the changes in schoolhouse architecture, equipment and methods of teaching. With a keen historic interest, Dr. Sullivan has traced through three centuries the ways in which Boston schools have dealt with such problems. This story carries us down to up-to-date safety education in Boston schools today. It is a story of achievement.

THIS YEAR is of historical significance in the educational world since it marks the three hundredth anniversary of public school education in America. Here in Boston in the year 1635, Boston Latin School was founded only five years after the landing of the Puritans. As supervisor of health education, I have naturally been much interested in the safety and health history of the Boston public schools through the years. Delving into the original records has brought to light some illuminating points on safety in the schools.

It is interesting to note that the safety consideration preceded the attention given to the hygienic and later the sanitary conditions of school buildings. Probably the ever present fear of fire because of the predominance of wooden structures and the lack of adequate apparatus and water facilities accentuated this safety problem. The seventeenth and eighteenth centuries saw rigid laws passed on the care of the chimney as well as a close supervision of bake house and foundry chimneys in order to prevent the spread of sparks to adjoining dwellings and schoolhouses. The town fathers in one instance caused a bake house to be moved because of its proximity to the grammar school.

The open fireplace, the early method of heating schoolhouses, resulted in a serious problem when girls were first admitted to schools. In cold weather it was hard to heat the room, and the request was frequently heard from the girls "to go to the fire." However, if the girls walked too close to the open grate, their cotton dresses occasionally caught fire.

In the early nineteenth century a town law was passed requiring "the selectmen to procure and have placed in each of the school houses

of the Town, twenty firebuckets to be kept in the front entry for public benefit." Closely following this was the location of hand tubs, the apparatus of the early fire department, in the basement of some of the school buildings. "Our Hero" was the name given to one of these early hand tubs. What a time the boys had running to fires with "Our Hero"; and how the girls envied them this privilege!

The first street safety problem was caused by the boys playing games in the streets. In fact as early as 1677 the selectmen forbade the "playing of football in the streets of the town." A century later, hoop rolling was a common pastime on Beacon Hill; and this youthful activity became such a problem to the growing town that it was solved by transferring this sport to Boston Common.

The vehicular problem occurred in the middle of the last century. In that instance the school committee inquired "whether in any cases within the city, the passage of children to and from the public schools is rendered unsafe by the crossing of railroad cars over the public streets." This problem was closely followed by a nuisance, in which some schools complained of the "disturbances to classroom work by the noise from teams and vehicles passing over pavements in front of the schools." This problem was easily solved when the authorities caused these streets to be repaved.

In the beginning of the last half of the nineteenth century when the school population was rapidly increasing, when new buildings were necessary and an increased interest was manifested in safe and hygienic conditions, the school committee voted that it was "both humane and economical that such school houses here after to be built be made fire proof." This safety consideration was followed by an order for the installation of fire escapes on all schools in 1874. Fire drills were first instituted in 1883 by the school committee in an order which read: "Each principal shall give instruction to his assistants as will prepare them to act prudently and promptly in case of a fire in their school building; and he shall so train the pupils that at a given signal they will leave the school house orderly and quickly. The fire-alarm signal shall be given at least once each month from September to April. Each principal shall see that the outside doors of all the school buildings of his district are kept unlocked during school hours."

The twentieth century with its complicated industrial and social life has forced us to consider precautionary methods of all kinds. Society is demanding of individuals that they be self protective. The individual in turn should expect of society a working program for increasing group efficiency and individual advancement. Safety education is the keynote in this plan of individualization and socialization.

Safety education was instituted in 1924, utilizing instruction, activities such as the safety patrols, safety councils, plays and visual aids like posters and films, all designed to make the pupil safety minded. Instruction is now given: (1) in each classroom just before children in lower grades leave for home in the morning and afternoon; (2) in connection with citizenship work; (3) integrated with civics, health instruction and in the high schools in connection with biology, economics and physics; (4) in school assemblies; (5) through extracurricular activities, and (6) through an informal program at the recreational centers during the summer season.

In addition the following supplementary safety work is done: 1. Each school has a teacher designated safety councilor. 2. Classes in first aid are conducted as part of the health education course. 3. A pamphlet is now in press, covering the field of possible accidents in our school shops and laboratories, methods of avoidance and directions for safeguarding pupils and tools. 4. All accidents to school children have been reported to headquarters. These reports have been analyzed, and safety pamphlets have been based on the results of such analysis. The analyses of the accidents have discussed the time of year, time of day, sex, age and grade of pupils, and particular situations have been brought to the attention of the masters of the localities concerned.

We have seen this program growing in importance and effectiveness. Attention is drawn to the fact that fatal motor vehicle accidents among Boston children decreased from 59 in 1924 to 20 in 1934, and nonfatal motor vehicle accidents to Boston children decreased from 2,541 in 1933 to 2,343 in 1934. Boston continues to have the best record among cities of its size in number of motor fatalities involving school children.

DOUBLE ARMY BLANKETS ARE SUPPLIED AND, FOR SEVERE WEATHER, COWL-LIKE HOODS GIVE PROTECTION.

REST AND NUTRITION CLASSES

ANNA M. NILAND
Master, Ulysses S. Grant School
BOSTON

In the organization of rest and nutrition classes, Boston has been a pioneer. Miss Niland tells in detail how one of these classes is conducted. Not only should this plan be of interest to those who have charge of similar classes and those who wish to establish such classes, but it should also suggest to regular classroom teachers the need of rest and good nutrition for their pupils.

WHILE there had been sporadic attempts from time to time to solve the problem of the undernourished child in the Boston schools, no really systematic movement in this direction came until 1926 when under the late Dr. Ceconi, then director of hygiene, the first rest and nutrition class was organized in the Ulysses S. Grant School in East Boston. Two large classrooms made vacant by the establishment of a junior high school gave space for a restroom and a lunchroom.

The thirty pupils, many of whom had had tuberculosis contacts, were selected after examination by the school physician and school nurse.

The regimen then instituted was found so beneficial that it has become an established course in all such classes, of which there are now twenty-eight throughout the city.

The pupils attend their regular classes from 9 until 10 o'clock every morning when they go to the restroom, remove their shoes and lie on army cots until 10:30. Double army blankets are supplied and, for severe weather, cowl-like hoods protect from drafts. In milder weather the children rest between the blankets, and in warm weather they lie on top of them. The temperature is kept around 50 F. whenever possible. After the half hour rest they put on their shoes, wash their hands and go to the lunchroom where they have a half pint of milk

and a generous slice of bread and butter. In extremely cold weather hot cocoa is substituted for the cold milk. They then rejoin the other pupils for the remainder of the recess period and go back to their classrooms until 11:45 when they return to the restroom for an hour's siesta. At 12:45 they put on their shoes, wash their hands and go to the lunchroom where they have bread and butter, cocoa or milk, a green vegetable, a hot main dish and a dessert.

The pupils thus have an hour and a half of rest daily with the loss of but half an hour from the routine school work as the physical exercise period for the other pupils may well be omitted by the malnourished group.

After dinner the pupils have a short time for outdoor play before going to their classes for the afternoon. On their way home at 3:30 they are given a peanut butter sandwich, cookies, or fruit when it is not too expensive.

The cost of supplies per pupil, exclusive of the milk, is 10 cents a day as wholesale rates are obtained whenever possible and the margin sales of the chain stores are closely followed.

There are now sixty-two in the class.

The largest item, the milk bill, is paid by the teachers who patronize the lunchroom and pay 20 cents for the midday meal.

The school board provides the equipment and the services of attendants and of a nutrition specialist whose province it is to provide the weekly menus and to discharge pupils as they become of normal weight.

There are many combinations, more than a hundred in fact, but these are typical.

The pupils are weighed monthly by the school nurse, and the gain is almost constant; the pupils gained 4, 8, 9, 10, and in two cases, 15 and 21 pounds in one year. The average gain in six months was 4¾ pounds. The fact that during vacations there was a noticeable loss of weight (16¾ pounds being the net loss in the December vacation and 15½ pounds during the February holidays) proves the value of such an experiment.

Health habits, stressed by the posters on the walls of the health class, call for more than one bath a week, the brushing of teeth, regular hours of sleep with open windows, and the like.

A most important development was the decided change noted in the mental attitude of the children. Some who had previously been listless, slow and unable to do class work noticeably improved and in many cases were promoted with their regular grades.

SAMPLE MENUS

MONDAY

Beef stew with carrots, onions, potatoes and celery
Cocoa, bread and butter
Leaf of lettuce with raw carrot
Minute tapioca

TUESDAY

Spaghetti, Italian style, with olive oil, onion, conserva and cheese
Lettuce with cottage cheese and sliced pears
Cocoa, bread and butter
Stewed prunes

WEDNESDAY

Baked rice and tomato
Buttered string beans
Peanut butter sandwiches
Grapenut ice cream
Milk or cocoa

THURSDAY

Hamburg steak, browned gravy
Mashed potatoes
Buttered turnip, lettuce leaf
Cracker pudding
Milk or cocoa

FRIDAY

Fish chowder
Cole slaw on lettuce
Chocolate blancmange with whipped cream

Since the medical profession realizes that malnutrition lowers the resistance of children to disease and necessitates additional medical assistance later, it would seem to justify the establishment of such classes wherever the need occurs.

It is encouraging to note that Boston has recognized this and is a pioneer in this work of prevention.

TRAINING FOR GOOD POSTURE

ESTER McNELLIS
Headmaster, Trade School for Girls
BOSTON

Many children require special training in posture. General suggestions are insufficient. How can such training be given so that it will be interesting to pupils and also effective? Miss Ester McNellis describes in detail how this training is being carried on in her school. How many of these suggestions will you be able to use in your school?

TO THE Trade School for Girls at Boston each year come hundreds of young women from cities and towns of eastern Massachusetts in order to obtain that specialized training which has for its primary purpose the preparation for profitable employment in industry. The group served ranges in age from 14 to 21. All must have completed grade 8, and one-third at least have had two or more years at secondary schools.

Sixty per cent of the students' program is allotted to shop instruction, 20 per cent to the related technical training and 20 per cent to those subjects that will give a cultural background and effect a well rounded physical development.

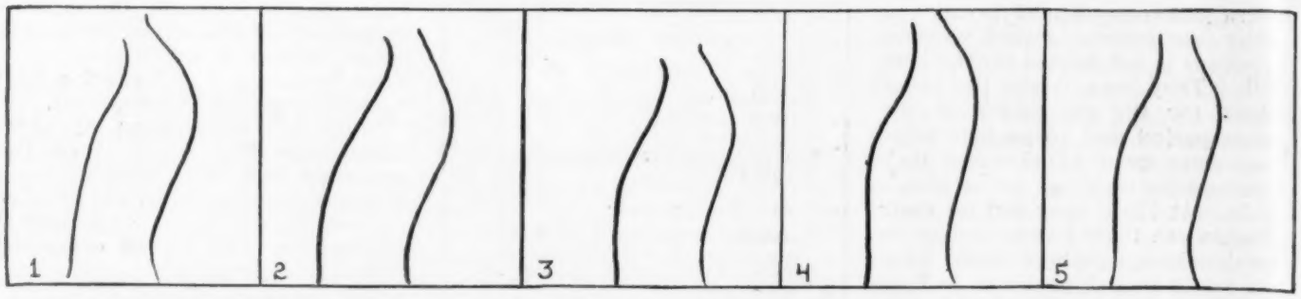
Since any curriculum of vocational education is based on the principle that such training must anticipate the needs of the worker in industry it follows as a natural consequence that a well organized and varied program of health education must be offered to prepare for efficient womanhood.

When the student applies for admission she receives a thorough physical examination by the school physician, a woman of wide professional experience, sound judgment and common sense. The school nurse is present at the examination and notes on the health record the health history and the defects existing; and if the facts warrant, a change from the course of training originally selected is advised.

With full appreciation that many types of employment which the pupils will enter will produce or increase defects in posture, a program in posture training is carried on as one phase of the health education activities. This training is given from two standpoints, direct and incidental.

The incidental training goes on throughout the school day, in shops and laboratories and at recreation. Early in the school year each teacher accompanies her class to the gymnasium to observe the instructor there illustrate how to acquire and maintain correct posture when standing, sitting or walking. She is then charged with the responsibility of correcting wrong habits or strengthening right ones as her students work at their trade, in literature, music, hygiene, science or related technical classes. When the day of reckoning of the trimonthly report cards arrives the mark given for posture is a composite rating from all the teachers whose classes the pupil has attended during the three-month period as well as that of the instructor of physical education. The principal never neglects an opportunity to commend a pupil for correct posture or to correct, when necessary, as examples present themselves from day to day. Frequently as a part of the departmental or general assemblies, posture receives special recognition, from a speaker who is an authority in the field, by illustrated programs, short dramatic sketches or stories. The furniture and trade equipment has been selected, wherever possible, from the standpoint of its fitness to aid in developing good posture.

Frequently students of the dressmaking and millinery departments attend openings and style shows at the retail stores. The good posture



THESE OUTLINES FROM ACTUAL POSTURE PHOTOGRAPHS SHOW THE IMPROVEMENT IN POSTURE OF A STUDENT AT THE BOSTON TRADE SCHOOL FOR GIRLS. IN THIS POSTURE CLASS SPECIAL EXERCISES WERE GIVEN TWICE A WEEK. 1. PHOTOGRAPH ON ADMISSION TO CLASS IN SEPTEMBER SHOWED HOLLOW BACK, PROTRUDING ABDOMEN, SUNKEN CHEST AND FORWARD POSITION OF THE HEAD. 2. CONCENTRATED WORK DURING NOVEMBER AND DECEMBER RESULTED IN IMPROVED POSITION OF THE LOWER PORTION OF THE BACK; BUT THE ABDOMEN, CHEST AND HEAD RETAINED THEIR FAULTY POSITIONS. 3. DURING JANUARY AND FEBRUARY THERE WAS A DEFINITE IMPROVEMENT IN THE ABDOMEN, AND A SLIGHT CHANGE OCCURRED IN THE POSITION OF THE HEAD. 4. DURING MARCH AND APRIL THE ABDOMEN ASSUMED A GOOD POSITION, AND THE BACK AND HEAD IMPROVED. THE FINAL PICTURE, TAKEN IN JUNE, SHOWS THE GOOD POSTURE ATTAINED.

of the models, no small item in their attractiveness when displaying hats and gowns, is always commented on.

Some students need definite help to acquire good posture. During the initial physical examination the examining physician sets aside the cards of any girls who in her opinion are of this category. These girls report again for a special interview with the physician and the instructor of physical education. A posture photograph is taken of each girl, and a graded series of posture exercises is then worked out according to her needs. Each girl is then assigned to two scheduled posture periods weekly in addition to the two periods which she spends in general exercises and games in the gymnasium.

The girls work in pairs, one as the operator and the other as the patient. The procedure then reverses. A careful card record, kept for each student, lists her height, weight, measurements, defects and program of exercises.

These exercises are simple. Photographs are taken every three months and at the end of the school year. The following exercises have proved of great value in correcting defects found among the students at this school: (1) lying on the back, with knees drawn up, for fifteen minutes; (2) abdominal instruction (a) on the back, (b) at the wall and (c) free stand; (3) abdominal exercises; (4) hanging exercises for muscle stretching; (5) drooping head exercise; (6) pectoral stretching, and (7) rib breathing.

In June of each year, health honor badges are awarded to students who have made noticeable improvement in their posture. Their names, together with the names of the girls who have corrected other physical defects during the school year, are inscribed on the health honor roll, a permanent record of accomplishment and cooperation by school nurse, school physician and instructor of physical education.

NEW HEALTH BOOKS
for teachers and pupils

EVERYDAY BEHAVIOR OF ELEMENTARY SCHOOL CHILDREN

By Florence C. O'Neil and Mary G. McCormick. Pp. 147. Albany: The University of the State of New York Press, 1934.

WHAT instruction and training in health do children need? This is the first question that every teacher must be able to answer satisfactorily if she is to get worthwhile results in health teaching. Because of a lack of information about the health behavior of children, teachers have been working in the dark. Miss O'Neil and Miss McCormick, supervisors of health teaching in the New York State education department, and their staff of workers have made a valuable contribution to health education in a study of the twenty-four-hour-day health behavior of 3,512 children. This study will be useful not only for the actual facts about the everyday health behavior of children but also because of the scientific suggestions to others who may wish to conduct a similar investigation.

This bulletin had its beginning in 1930 when the New York State department of education invited a group of educators representing the normal schools and the elementary schools of the state to construct a syllabus for the use of elementary teachers in planning health programs to meet the needs of their pupils. At its first meeting this committee decided that the needs of the state could be met best by the construction of a handbook which would furnish guidance to local curriculum committees and teachers in the organization of their health teaching programs. It was believed that this handbook should check lists of desirable objectives. The futility of preparing check lists without a knowledge of the health behavior of children was immediately recognized. It was therefore decided to make a survey of the behavior of a large sampling of individual elementary school children through the direct observation of children by teachers and parents in school and home environments. It is expected that the conclusions from this study will suggest many specific health educational problems which will offer educators a flexible guide for grading the content of health programs throughout the state.

It is impossible within limited space to do justice to the observations in this significant study. The following paragraph under Sleep and Rest indicates the character of the conclusions:

"A strikingly large percentage of elementary school children (about 75 per cent) are regularly getting too little sleep during the school week. The percentage having too little sleep is even higher on Sunday nights and is significantly higher on Friday and Saturday nights than on nights throughout the school week. This presents a problem of irregular sleep habits as well as of insufficient sleep."

The publication of this bulletin shows that the state of New York is taking a forward look in health education. It will base its program on facts rather than on mere beliefs arrived at by cursory observation.

(Continued on page 954)

To Contributors: — *The editor of the School and Health Department will be pleased to receive articles dealing with the solution of concrete and practical health education problems in the school. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

New Books on Health

ELEMENTARY HUMAN ANATOMY

By Katharine Sibley. Cloth. Price, $4.50. Pp. 360. New York: A. S. Barnes & Co., 1935.

THIS WORK is planned primarily for the physical educator, the physical therapist and the undergraduate student in the field of physiology, and also for medical technicians of various types. The book is well put together and most beautifully illustrated with a fine selection of material from other important works. The physical educator who needs to have some basic knowledge of anatomy will find the book exceedingly useful as a reference and also as a fundamental text.

MORRIS FISHBEIN, M.D.

GUIDING YOUR CHILD THROUGH THE FORMATIVE YEARS FROM BIRTH TO THE AGE OF FIVE

By Winifred de Kok, M.R.C.S., L.R.C.P. Cloth. Price, $2. Pp. 192. New York: Emerson Books, Inc., 1935.

THIS BOOK, dedicated "To Julia and Christopher," will make an excellent record for them of their first five years, for little of what they said and did has been omitted. Its value for others must lie in their ability to adapt to their Marys and Johns the principles used by Dr. de Kok in rearing her two children.

From the pen of one who has a recognized standing in the British medical world, the reader has the right to expect a dignified, scientific discussion. It is somewhat of a shock, therefore, to find a chatty discourse, sometimes surprisingly naive, in which objective science has become submerged in subjective sentiment. The mother motif rises supreme and, like all mothers, Dr. de Kok simply cannot resist the temptation to talk of what "my children" said and did at all stages of their development. Her book, then, is a record of the formative years as interpreted through the actions and reactions of her son and daughter. Their nursery is her laboratory, their lives are her great experiments, and their reactions form the bases for her psychologic conclusions.

Consequently, the book is filled with what, to the unprejudiced mind, must be classed as inconsistencies. On one page, for example, one learns that "both children have learnt to talk easily and talk well for their age. . . . They have never had any baby talk of any kind." And on the opposite page one finds the following example of Julia's early conversation: "Where other one, Dada, pitty flowers, Juju play-play?"

The intelligence and credulity of the reader are further strained by Dr. de Kok's discussion on sex education. She condemns the method of "telling the child a parable about flowers, birds, rabbits and so on, gradually leading up to human beings," for, she declares, "it is quite hopeless to expect a child handled in this way to have a sane idea of sex." Dr. de Kok's method

of revealing the mysteries of birth to her children involves the following so-called explanation: "A baby was once a tiny spot of jelly inside its mama." The reader may well wonder whether this gives the child any greater comprehension or a more sane idea of sex.

There may also be an epidemic of raised eyebrows when one encounters such statements as: "A wooden darner makes an excellent teether and so does a man's pipe (a new sixpenny one)" or "I think it is preferable from every point of view for the confinement to take place in the home, if this can be managed."

Probably the most relevant observations made are to be found in the chapters that deal with tantrums, toys, rest and freedom, which contain excellent suggestions, sound psychologic reasoning and concrete illustrations of the keynote message of the book: "Give the child a sense of security in his world."

LEOLA J. HARRIS.

HEALTH AND THE HUMAN BODY

By S. Weir Newmayer, A.M., M.D., and Edwin C. Broome, Ph.D., LL.D. Cloth. Price, 96 cents. Pp. 398. Illustrated. New York: American Book Company, 1935.

THIS VOLUME is part of the Health and Happiness Series. It is intended for the adolescent and will therefore be used as a high school textbook or a supplementary reading assignment. It is a well organized book setting forth the standard facts about health and hygiene in an interesting manner. The chapter on enemies of health, namely alcohol and narcotics, is sound and temperate. The book is devoted mainly to a discussion of personal hygiene but contains frequent references to the relationships between personal and community hygiene and four chapters devoted wholly to community hygiene, of which the title of the closing one is significant—"When You Become The Ruling Citizens." There are many clear self explanatory diagrams and a number of good illustrations, particularly in the chapter headings. Among these is the skeleton of a modern reinforced concrete building at the heading of the chapter on bones, entitled "The Framework of the Human Body." The chapter on muscles is headed by an interesting action photograph of the "daring young man on the flying trapeze." Excellent colored plates show the bones, the muscles and the principal organic systems. The problem in writing a book of this kind is not merely to set forth standard information which is available to every one who will dig for it but to make it interesting. This the authors seem to have achieved.

W. W. BAUER, M.D.

QUESTIONS AND ANSWERS

Rhubarb and Tomatoes Cooked in Aluminum Pans

To the Editor:—When rhubarb and tomatoes are cooked in aluminum pans they leave the pans several shades brighter. Is this harmful to one who eats the rhubarb or tomatoes? Is rhubarb of any value from the standpoint of vitamins? Is it fattening?

W. W., Minnesota.

Answer.—The effect of rhubarb and tomatoes on aluminum has alarmed many persons. There is, however, no evidence whatever that any harm comes from the eating of such foods cooked in aluminum pans. The small amount of aluminum compounds which may be taken in will not have any effect on the individual because such aluminum compounds do not dissolve and are not absorbed by the body.

Rhubarb is of considerable value, as are all fresh vegetables, from the standpoint of vitamins. It is not particularly high in sugar content and therefore makes a useful ingredient of a diet for one who does not wish to gain weight. It does, however, have definite laxative qualities and may therefore have to be taken in moderation by certain persons.

Navel Hernia

To the Editor:—My infant son, aged 8 months, suffers from a hernial condition. The navel was normal at birth. At 5 months a bad bronchial cold and cough developed, and since that time our family doctor has kept an adhesive bandage with a coin on the baby. The hernia does not protrude very much, but when the child cries or strains, if the hand is placed over the navel, one can feel and hear the hernia go back into place. What should I do about an operation? If one is necessary, is it serious? What other form of bandage might be better than the one I am using?

B. N. T., North Carolina.

Answer.—The navel hernia described apparently is not of a severe type. As the child grows older and the abdominal muscles develop and more fat is deposited in the abdominal wall, it will probably improve without further attention. Navel hernias rarely require operation.

Such a hernia can often be retained successfully by strapping with adhesive plaster, using the following method of inverting the abdominal wall: Make a small hard cigaret-like roll of cotton about 1½ inches in length and from ⅛ to ¼ inch in thickness. It must be tightly rolled. The size depends on the size of the hernia opening and the elasticity of the abdominal wall. The small cotton cigaret is then entirely buried lengthwise beneath the skin folds, so that the cotton is no longer visible. A strip of adhesive plaster 2 inches wide and about 4 inches in length is then strapped across the abdomen. Another piece of adhesive plaster 2 inches wide and 3 inches in length is then placed lengthwise over the first strip, so that the upper and lower edges of the first piece are covered. This prevents moisture from getting under the plaster.

The adhesive plaster need not be changed oftener than at intervals of five or ten days; in other words not until moisture appears to be getting under the plaster. If the skin is kept dry in this way, there will be little or no irritation. When it is time to remove the plaster it can be done by using any one of the naphtha cleaning fluids which are sold on the market.

Proper application of the first piece of adhesive plaster requires two persons, one to hold the skin folds in place while the second person applies the adhesive plaster. Of course, the physician in attendance should be asked to advise what the patient requires.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Induction of Labor

To the Editor:—What theory do the leading obstetricians and medical schools offer concerning the starting of labor on a set date in normal cases? What are the reasons both pro and con?

Mrs. R. W. L., California.

Answer.—The proper treatment to follow at the time of birth cannot be settled until the end of pregnancy when the prevailing conditions are known. Patients must be treated individually, so variable are the conditions to be met from case to case.

Induction, or starting labor on an appointed day, cannot be adopted routinely. Obviously, the selection of cases for induction calls for more skill and better judgment than "leaving nature to take her course." Nowadays, anticipating the normal termination of pregnancy often becomes advantageous in one way or another. But the existing situation, as it relates to the mother's pelvic capacity, the position of the child, the degree of dilatation of the womb and occasionally other pertinent phenomena, must be favorable to induction. Otherwise its employment invites disaster. The requisite conditions, highly technical in character, some of them unpredictable until near the end of pregnancy, may be judged fairly only by a physician who is familiar with the anatomic and physiologic factors that enter into the problem of parturition, no matter whether labor begins spontaneously or in response to artificial stimulation.

Ragweed

To the Editor:—Is Bermuda free from ragweed and good for hay fever sufferers?

B. K., Pennsylvania.

Answer.—No pollen surveys have been made in Bermuda. Because of the semitropical climate, it is likely, however, that little or no ragweed is to be found in that region. Pollen studies in North America have been made only in the United States, Canada and parts of Mexico.

. . . and when Winter comes

HAVE your physician check up on your children's physical condition today and so pave the way for better health during the coming winter. Don't let cold weather find them indoors and ailing because they were unprepared for winter's rigors and winter's fun.

A slight sinus infection . . . a neglected tooth . . . a cough that "hangs on" . . . a bowel disturbance . . . some seemingly trivial condition may lead to acute disease—even to chronic illness later, if physical resistance is lowered. A complete examination by your physician now, however, will afford him an opportunity to audit the child's general health . . . to forestall complicated future developments.

If there is any doubt about the condition of the sinuses, chest, teeth, or other organs, an x-ray examination should be made. Radiographs provide graphic facts . . . disclose even incipient disorders in hidden areas. Therefore, the x-ray examination is one of the most important aids in preventing serious illness . . . in prolonging life.

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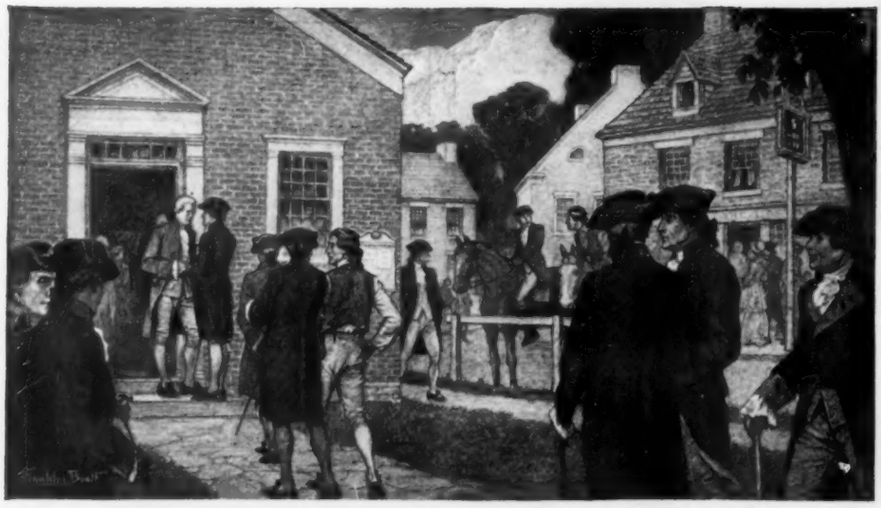

Town Meetings and Better Health

FOLLOWING the old Colonial custom of calling a town meeting when the safety and welfare of the citizens were at stake, the National Health Council will sponsor local town meetings throughout the country during October. You and other citizens will have an opportunity at these meetings to take stock of the activities which are being carried on to make your community a better and healthier place in which to live.

There is a direct relationship between the community and family health. Effective measures for improving sanitation and controlling disease depend upon enlightened public opinion. At these meetings you will learn the extent to which your community is giving you and your family a full measure of protection.

Your family should not be exposed needlessly to disease.

Local health officials and voluntary organizations are striving continually to improve health conditions, and they know what vital gaps there may be in the health activities of your community. Just what, if anything, should be done is a matter for you and your neighbors to decide.

Numerous communities can bear witness to the benefits—measured in terms of better health and happiness — which have been achieved through surveys of the local situation and education of the public. In some cases the water supply has been improved, in others adequate stress has been placed upon the diphtheria immunization of children, and in still others the public has supported whole-heartedly the preparation of proper health ordinances and their enforcement. Attend your town meeting — it may lead to better health for your community.

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FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N. Y.
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Scarlet Fever

To the Editor:—When is it dangerous to be exposed to a patient having scarlet fever? Can persons who have been exposed carry the germs to others? Is the disease particularly contagious while the patient's skin is peeling? How is the disease transmitted? For what reason is it necessary to have a thirty day quarantine? What is the name of the immunization test?

Mrs. E. D. T., New Jersey.

Answer.—It is dangerous to be exposed to a patient with scarlet fever at any time during the disease while there persists any fever or any abnormal discharge from the nose, throat, eyes or ears or from ulcers or discharging glands and sores of any kind. The greatest danger from exposure is at the very beginning of the disease when usually there is no definite certainty what the disease is and for that reason precautions are not being carefully observed.

Persons who have been exposed can and probably do carry the germs to others. Germs are not carried on the clothing, however, as is commonly believed but in the secretions of the nose and throat.

The disease is less contagious toward the end of its course while the skin is peeling. The peels themselves are not particularly infectious except those on the fingers, which may become infected with nose and throat secretions, especially in children who do not readily learn to keep the fingers away from the nose and mouth.

The disease is transmitted by the secretions of the nose and throat through personal contact and probably through contamination of objects which are handled first by the patient and then by others. For transmission through contaminated objects there must be direct transmission; that is, such transmission occurs when there has been only a brief lapse of time between the contamination of the article and its subsequent handling by others.

It is necessary to have a thirty day quarantine for scarlet fever because of the difficulty of determining the end of the period of infectiousness. A thirty day quarantine is ample to assure safety in most cases, and yet there are instances on record in which a patient released after a thirty day quarantine has infected others even when there was no apparent sign that the patient was still capable of transmitting the disease.

The test for immunization is called the Dick test. Following the Dick test, immunization with Dick toxin is advised by many physicians.

Do You Know—

1. The various types of therapy that may be used in the treatment of goiter? *See page 874.*
2. What is a moderate intake of caffeine, and who should avoid the use of this stimulant entirely? *See page 878.*
3. What precautions to take in caring for a patient who has a contagious disease? *See page 881.*
4. What writer of famous detective stories practiced medicine? *See page 884.*
5. What percentage of the population has some type of speech defect? *See page 888.*
6. Which unit of the U. S. Navy is especially designed, built, equipped and operated as a hospital ship? *See page 891.*
7. How the home can be made more comfortable and convenient for young members of the family? *See page 894.*
8. How many bones there are in the human body? *See page 903.*
9. Who discovered the germ that produced sleeping sickness in East African horses and cattle? *See page 911.*
10. What is the trouble with present-day child welfare work? *See page 912.*
11. Why insulin cannot be taken by mouth? *See page 916.*
12. How the germ of bubonic plague is planted in the human body? *See page 921.*
13. The difference between medical and surgical diseases? *See page 922.*
14. Who is known as the Father of Dentistry? *See page 925.*
15. Why standing causes more strain on the arches than walking? *See page 928.*
16. Why the citrus fruits are valuable in the diet? *See page 932.*

"RARIN' TO GO!"

This waterproof baby powder keeps him happy and fit

Brimming over with joy and laughter — no irritating skin rash mars this baby's sunny disposition. His mother sees to it that Merck Zinc Stearate is part of his after-bath routine every day.

This waterproof powder never combines with moisture to make an irritating paste, but forms instead a dry, protective film that *prevents* irritation and chafing from wet diapers or perspiration.

Merck Zinc Stearate is a pure, velvety-soft powder. It is soothing and healing to baby's skin. And it comes in a can with a self-closing top — mother or baby cannot spill the powder accidentally. This is an essential safeguard for any powder used in the nursery.

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Shake some other powder into the palm of your hand. Then pour a little water onto the powder and rub gently with your finger. You will find that the powder absorbs the water and forms a paste. This happens when baby's skin is wet.

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Alpine
SUN LAMP
aids in building sound teeth and a strong bony framework for the body

ON DULL days—during winter months—on days when the sun's ultraviolet rays do not reach kiddies' bodies—on days when children must stay indoors and can't take advantage of the sun—these are only a few instances when you may need an Alpine Sun Lamp to give your children (and yourself) convenient effective ultraviolet radiation for creating vitamin D.

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THE PHYSICIAN IN LITERATURE

(Continued from page 887)

Osler." It is a magnificent work, reminding one in its painstaking details of Boswell's "Life of Johnson."

Warwick Deeping is an English writer who gave up a successful medical career for a still more successful one in literature. Before the World War he had written more than twenty books, none well known. He served in the medical corps throughout the war and soon afterward literally leaped into fame with the publication of "Sorrell and Son." This was followed by other successes, among them "Roper's Row," "Doomsday," "Kitty" and "Smith."

Francis Brett Young is another British physician who has been notably successful as a writer. He too is fond of having doctors take leading parts. Among his best known works are "My Brother Jonathan," "Love is Enough," "Black Roses," "The House Under the Water," and "Mr. and Mrs. Pennington."

W. Somerset Maugham, the English novelist and playwright, graduated from St. Thomas' Hospital but never engaged in practice. His best known work is "Of Human Bondage," of which the hero is a medical student.

St. Thomas' seems to have been an incubator for literary genius, perhaps because the spirit of Mark Akenside still hovers over it. A. S. M. Hutchinson also was a student there but likewise never practiced. "If Winter Comes," "This Freedom" and "One Increasing Purpose" are perhaps his best known books.

Mrs. Victor Blakeslee, the former Russian Countess Irina Skariatina, has written a gripping account of the Russian Revolution, entitled "A World Can End," and followed it by an account of her life in America, "A World Begins." She was graduated from a medical school in Russia and saw active practice in a hospital during the World War.

Mary Roberts Rinehart, who is a graduate nurse and the wife of a doctor, might almost claim an honorary membership in the medical profession.

Dr. Gustav Eckstein, author of the "Life of Noguchi," writes in a style that may well be described as jazz.

Dr. R. M. Wilson, a Briton, deserves mention for his warm hearted biography of his friend and preceptor, Sir James Mackenzie, in "The Beloved Physician."

Dr. Arthur Torrance, another Englishman, has written "Tracking Down the Enemies of Man," the "romance of a doctor's life in the jungles." In it the reader learns much about tropical diseases and is delightfully entertained at the same time.

Within comparatively modern times the writing of articles and books on medical subjects for the public has become increasingly popular, but the idea is by no means new. In the year 1100 the oldest medical school in Europe, at Salerno, Italy, was honored by a visit from Robert, Duke of Normandy, son of William the Conqueror, who sought treatment for an old arrow wound suffered during the crusades. The school showed its appreciation by giving him a book written in verse especially for his guidance in medical problems. It remained a standard work for centuries and in the sixteenth century was translated into English by Sir John Harrington, under the title, "The Englishman's Doctor or The School of Salerne or Physicall observations for the perfect Preserving of the Body of Man in the continuall Health." The translation, like the original, was written in verse. In it occurs the still famous rhyme:

> Joy, temperance and repose
> Slam the door on the doctor's nose.

I find a reference to an American book of popular medicine, "Every Man his own Doctor, or The Poor Planter's Physician," published in 1730, but the author is not named.

The most widely circulated popular book on health ever published in America is "Gunn's New Family Physician: or, Home Book of Health," published in 1857. A copy given me by a dear old friend was dated ten years later and was the one hundredth edition, so it evidently struck a popular chord. Its author modestly says in the preface:

"It has been the object of our humble labors to condense into a cheap, convenient form, a useful Family Book for the poor and the afflicted, in plain language, free from medical terms. At the same time, not to confine our efforts to medicine alone, we have endeavored to present a portion of that useful knowledge which leads to eternal life, and soothes the human spirit amid its worldly afflictions." Further reading of the book shows that Dr. Gunn had other traits of the quack besides the unctuous piety which is so often characteristic.

Our more modern doctors who write on popular medical subjects are on a much higher plane. Perhaps the first strictly ethical physician who attempted to translate medical knowledge into everyday language was Dr. L. Emmett Holt, whose "Care and Feeding of Infants" was the bible of young mothers for more than a generation.

one

two

three

Mothers! Save 48% Time Dressing Baby The VANTA Way!

Doctors say do not handle baby unnecessarily. The new VANTA garments for babies have no fastenings of any kind—no twisting, turning or pulling at baby's arms when dressing. The patented Nobelt process provides sideways stretch that allows a VANTA garment to slip on in 48% less time. Ask your dealer for VANTA always. Endorsed by thousands of doctors and nurses.

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Dr. Morris Fishbein, editor of *The Journal of the American Medical Association* and of the health magazine, HYGEIA, has written a number of magazine articles and books on medical subjects for laymen. Among these are "Medical Follies," "The New Medical Follies," "The Human Body and Its Care" and "Shattering Health Superstitions." It is a pity every layman cannot read such books, for in clear, vigorous English they lay bare many fads, follies and superstitions held by many who should know better.

Dr. Logan Clendening, who teaches medicine at the University of Kansas, is a most vigorous and entertaining writer. Besides numerous magazine articles on health subjects, he has written a most interesting treatise on anatomy and physiology, "The Human Body," and is also the author of "The Care and Feeding of Adults."

Dr. Karl A. Menninger, a specialist in mental diseases, has written an entertaining popular book, "The Human Mind."

One of the most interesting books published recently is "Devils, Drugs and Doctors," a popular history of medicine by Dr. Howard W. Haggard of Yale University.

This list by no means exhausts the names of doctors who have written worthwhile productions outside the realm of medicine, but it is long enough, I hope, to show that some doctors, at least, have known how to write.

LESSONS OF EXPERIENCE

I learn as the years roll onward
And leave the past behind
That much I have counted sorrow
But proves our God is kind;
That many a flower I longed for
Had a hidden thorn of pain,
And many a rugged bypath
Led to fields of ripened grain.

The clouds but cover the sunshine,
They cannot banish the sun,
And the earth shines out brighter
When the weary rain is done.
We must stand in the deepest sorrow
To see the clearest light,
And often from wrong's own darkness
Comes the very strength of right.

—The Hoosier Res-Cuer.

Looking around on the noisy inanity of the world—words with little meaning, actions with little worth, one loves to reflect on the great Empire of Silence, higher than all stars; deeper than the Kingdom of Death. It alone is great; all else is small. *—Carlyle.*

FINE to eat . . and wonderful to grow on! That's what makes Gerber's Shaker-Cooked Strained Foods so exceptional for babies. Fresher in flavor, because they're cooked a new way . . in Shaker-Cookers. Nutritious, because vitamins and minerals are protected in high degree.

Lower in price now

But Gerber's have special advantages for mothers, too. Never have they been so inexpensive. And think of the time and trouble saved . . the marketing . . preparing and cooking . . the tedious straining.

Even if you could always get vegetables as fresh as those specially grown for Gerber's, for best results you would have to match the care with which Gerber safeguards vitamins and minerals. In every Gerber process air is excluded to guard against loss of vitamin C. Moisture is regulated under vacuum, to save soluble minerals and vitamins that may be poured off in water. Straining is through finely perforated monel metal.

Now Shaker-Cooking, exclusive with Gerber, avoids overcooking of any portion . . keeps color brighter and flavor fresher. Thousands of doctors have recommended Gerber's . . hundreds of thousands of babies have thrived on them. Today they're *better than ever for babies.* Unseasoned . . serve as they are, or season slightly.

Strained Tomatoes . . Green Beans . . Beets . . Vegetable Soup . . Carrots . . Prunes . . Peas . . Spinach . . 4½-oz. cans. *Strained* Cereal . . 4½ and 10¼-oz. cans.

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Shaker-Cooked Strained Foods

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MOTHERS! Send for these helpful books. "Baby's Book"—practical information on daily care of baby, by Harriet Davis, R. N. "Mealtime Psychology," by Lillian B. Storms, Ph. D.—widely distributed to mothers by physicians for its practical suggestions in developing normal eating habits.

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By DOROTHY DUNBAR BROMLEY. Introduction by Dr. Robert Latou Dickinson, Sec. of National Committee on Maternal Health

Authoritative, Courageous Statement

The first clear, practical discussion for the layman of the whole subject—based on authoritative medical opinion

Your Urgent Questions Answered

"By far the best book on the subject," says Dr. Alice Hamilton of Harvard Medical School. You will agree when you have examined the contents. Answers hundreds of questions on the problems, personal and social, of birth control. Endorsed by leading physicians and lay authorities.

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YOUTH HOSTELS SHELTER YOUNG TRAVELERS

To the American youth who is recapturing the thrill and adventure of the open country the opening of a chain of overnight shelters in the Green Mountain Region of New England is a welcome forerunner of a national movement toward providing hospitality for young travelers of modest means in this country.

According to *The Parents' Magazine*, youth hostels have long been popular in Europe. Nearly 4,000 safe low cost overnight youth shelters have sprung up in eighteen countries for the accommodation of some 6 million "overnighters" a year. Bands of young hikers or cyclists belonging to the International Youth Hostel Association use the facilities of the hostels for the equivalent of twenty-five cents a night. Each hostel is in charge of a carefully selected house father and mother, and it is not run for profit as are the American tourist camps at present.

America's first youth hostel was opened just before New Year's in the quaint old town of Northfield, Mass. Plans have been completed for a loop of twenty-five similar hostels within a day's hiking distance of each other up through the White Mountains and back through the Green Mountains to the headquarters at Northfield. Each traveler cooks his own meals, or helps in a group, and takes his part in the care of the hostel. All undertake to leave things in even better condition than they find them.

Annual dues to the American Youth Hostel Association are $1, but the membership pass entitles one to accommodation in any youth hostel in the world.

The typical outfit prescribed for hosteling includes a knapsack with mess kit, soap and towels, change of socks and underwear, raincoat and extra sweater, and sensible hiking gear, either shorts or slacks, and low heeled shoes. The food costs may average as low as 35 cents a day.

The growing network of American hostels is planned to embrace surviving landmarks of the early Colonial settlements, the Indian pueblo villages, the missions of southern California and Florida, and plantation life in the South; to follow the trails blazed by the pioneers and to give access to the scenic wonderlands of the Grand Canyon, Yosemite, Yellowstone, Glacier and other national parks.

Disease is the retribution of outraged Nature.—*Hosea Ballou.*

DELAY IN OPERATING RAISES DEATH RATES IN APPENDICITIS

If every inflamed appendix could be removed from the body within the first few hours after the onset of an attack of appendicitis, it is safe to say that the mortality rate of the disease would be almost nothing. This opinion is voiced in the *Trained Nurse and Hospital Review.*

Hundreds of patients are being saved, nevertheless, as a result of the observations made by Dr. Reginald Fitz in 1886. He revealed that the rupture or perforation of the appendix after it became inflamed was accountable for many cases of peritonitis, or what was known in those days as "inflammation of the bowels." This information was soon used to advantage by the surgeon. Before long the ailing appendix was removed, in many cases, before it had ruptured. It was quickly recognized that the early removal of the appendix in attacks of appendicitis prevented the development of more serious trouble.

Although conditions are better today than they were ten years ago, only about 40 per cent of patients with acute appendicitis are operated on in the first twenty-four hours of the attack. Why should there be such a delay in bringing the patient to the operating table? First there is the time wasted by the patient or the family in using home remedies before a physician is called. Long discussions between the patient and the surgeon as to the advisability of operation also make for delay. It is not always easy to diagnose acute appendicitis. Thus the physician and surgeon may likewise spend a great deal of time trying to reach an agreement.

The public must be educated to be on the lookout for the early symptoms of appendicitis so that a physician may be called immediately. They must be taught that there is little need to fear an operation since in the early stages of an attack it is a simple one. It should be realized too that cathartics are extremely dangerous in cases of appendicitis.

Increase the number of patients who are operated on within the first twenty-four hours of an attack of appendicitis, and the death rate will inevitably decrease.

A too common conception of public health seems to be that of a helical cone, with dollars expended to protect swine, dimes for sheep, cents for dogs and mills for children, with the zero point just below.

SOME DIABETES "CURES" AND "TREATMENTS"

(Continued from page 920)

reproduction of death certificates, showing that the persons had in fact died of diabetes. Uvursin has been said to "combine the desirable principles" of chimaphila (pipsissewa), eupatorium (boneset), pareira, taraxacum (dandelion), uva ursi (bearberry), juglans (butternut bark), lappa (burdock root), inula (elecampane), eriodictyon (yerba santa), zea (corn silk), with some senna, potassium nitrate and sodium borate. In other words, the product is essentially a mixture of herbs, most of which have long been discarded by scientific medicine. Many of these herbs, as well as the potassium nitrate, have diuretic action.

Vindor Diabetic Wine.—This "patent medicine" was found to be misbranded under the National Food and Drugs Act in January 1931. The claim that it was a remedy for diabetes was declared fraudulent.

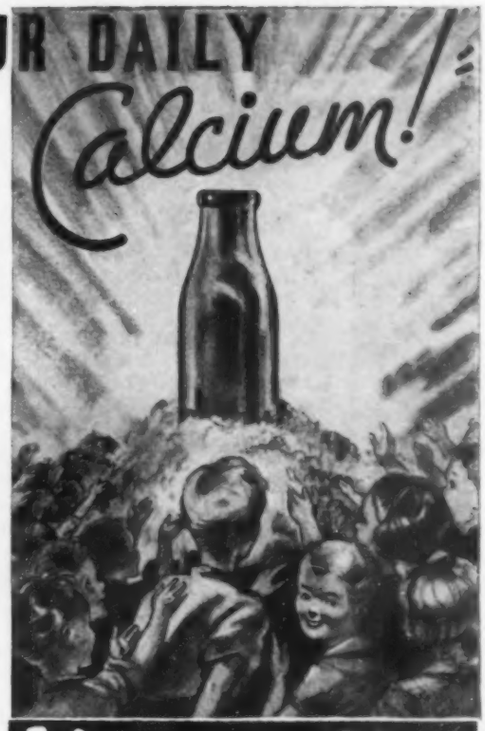
Warner's Safe Diabetes Remedy.—This "patent medicine," put out by Warner's Safe Remedies Company, Rochester, N. Y., was the subject of action by the National Food and Drug Administration. The government chemists analyzed the nostrum and reported that it consisted of extracts of plant drugs, methyl salicylate (wintergreen), a trace of alkaloids, glycerin and water. The government authorities declared that the representation that this preparation was effective as a remedy for diabetes was false and fraudulent. In March 1933 the company pleaded guilty and was fined $50.

In addition to the preparations already described there have been sold as remedies for diabetes the following products that are equally worthless as cures for the disease: "Dia-Bet," "Diaplex," "Korectone," "Letone," "Lifeore," "Melatol," "Mel-Tex," "Scheidemann's Shrub Remedy," "Vinculin" and "Winroy."

The world is a looking glass and gives back to every man the reflection of his own face. Frown at it and it in return will look sourly upon you; laugh at it and with it, and it is a jolly, kind companion.
—*William M. Thackeray.*

Besides, man is to know not only his power but also the means for applying it; and this can be attained only by means of an all-sided, equal cultivation of the body and its parts as the medium and expression of mental culture.—*Friedrich Froebel.*

"GIVE US OUR DAILY Calcium!"



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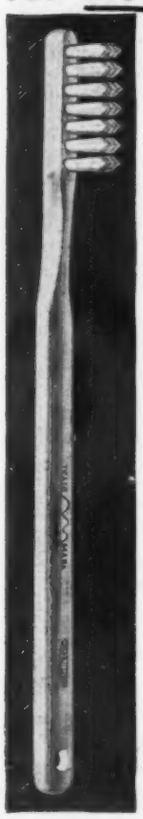

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SCHOOL AND HEALTH

(Continued from page 944)

THE YEAR'S PROGRESS IN HEALTH

Health Bulletin for Teachers. Pp. 4. New York: Metropolitan Life Insurance Company, June, 1935.

THIS number of the Health Bulletin for Teachers, published monthly by the Metropolitan Life Insurance Company and sent free to teachers on request, offers the teacher a birdseye view of the progress made in health during the past year. It discusses such events as the serious epidemic of poliomyelitis in California and the problem of psittacosis, a disease common among birds in the parrot family. Notable progress has been made in the method of producing immunity against both these diseases. The bulletin records the progress made in knowledge of the chemistry of the body. Experience with the feeding of families on relief has strengthened the belief that milk is of vital importance in the diet. Dr. McCollum concludes that there is no valid argument which can be brought forward in defense of marketing raw milk for the general population.

A survey of such facts may well give the teacher a sense of confidence that she is up to the minute on significant knowledge about health.

YOUR CARRIAGE, MADAM

By Janet Lane. Price, $1.75. Pp. 130. New York: John Wiley & Sons, Inc., 1934.

FROM the moment one starts to read this interesting volume until one reaches the end of the book one marvels at the author's easy style and her ability to focalize the attention on what is usually regarded as a dry subject; namely, posture.

"You know the fun of sitting in a hotel lobby or a railway station and watching the passers-by," she says. "Some of them waddle, loose and hippy, and others scurry, chins out, eyes set dead ahead. Some slouch, limp and licked, and others sail along, billowing slightly out in the middle as if from a following gale. Some trot, and others clump. But here and there in the crowd are those whom your eyes follow with pleasure. They impress you as being right."

"What was the matter with the others?" Miss Lane asks. "They had the same quota of arms, legs, head and backbone but somehow they didn't go together right." Then and there the author gets the reader interested in figuring out what good posture is and how it may be cultivated. No matter what one does, according to Miss Lane one is shaping the body. The problem is to shape it correctly.

The simple line drawings throughout the book help the reader to understand how one may move through life smoothly and gracefully. Teachers can use this book effectively in training high school and college girls in posture.

LETTER FROM THE EVENING BULLETIN

Philadelphia

Aug. 28, 1935

Editor of Hygeia
American Medical Association
Chicago

Dear Sir:

On page 842 of the latest issue of *Hygeia* appear pictorial historical data on a map of the United States, concerning secondary education in America, by Prof. R. D. Matthews of the University of Pennsylvania. It contains an omission, amounting to misinformation, which is surprising in *Hygeia,* particularly coming from a correspondent in Philadelphia. Reading it one would suppose that the academy founded by Franklin in 1751 marked the first important step in secondary education in Pennsylvania. The William Penn Charter School, today one of the leading preparatory schools of the United States, was founded in 1689 and has had a continuous existence ever since. It was indubitably the start of secondary education in Pennsylvania, in exactly the same proportion that the Boston Latin School was in Massachusetts, and should receive the same recognition. These two are now the oldest institutions of their kind in the United States, all the others founded before 1689 having passed out of existence. Partial information, with omissions that create misunderstandings, would seem to be worse than no information at all. But perhaps I am captious, because of the usual accuracy as well as wide interest of *Hygeia.*

Very truly yours,

CHARLES WILLING,
Exchange Editor

"A lofty mind always thinks nobly, it easily creates vivid, agreeable and natural fancies, places them in their best light, clothes them with all appropriate adornments, studies others' tastes and clears away from its own thoughts all that is useless and disagreeable."

—*La Rochefoucauld.*

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WISE PARENTS WILL AVOID FAVORITISM AND SHARE LOVE AMONG CHILDREN

The question "Do parents play favorites?" is likely to put them on the defensive. Many factors make it inevitable that every child should have his own unique relationship to each other member of the family according to *The Parents' Magazine.* These factors have their origin deep in the human biologic and social structure and in the underlying bonds of love and fear that hold the family together as a unit.

The new-born infant monopolizes a large proportion of the mother's time, care and attention during her waking hours, making inroads into what had previously been hours entirely at her own disposal. From the standpoint of the other children in the family the new little brother or sister has actually stolen first place with their mother.

The experience of being displaced by a new baby is one of several critical points in the child's emotional development. Will the mother have sufficient ability to identify herself with the older children, allowing them to share the new baby with her? If so, it will be a valuable experience for the older children, freeing them from complete dependence on the mother and helping them to become more mature emotionally.

Another factor which makes an outstanding difference in the parents' attitude toward a particular child is the child's sex. The father is said to tend more instinctively toward his daughter, and the mother toward her son. At the same time the father may see in his boy traits similar to certain of his own which he has feared and disliked. Seeing them in his child he has to fight them as he does in himself. The boy may respond with antagonism and rebelliousness that in later years may develop into resistance to all authority, particularly male authority.

The disappointment at the arrival of a little girl, for instance, when a boy was expected may be expressed by calling her "Jack" for Jacqueline, or some other boyish name. The child will sooner or later think herself a failure in the eyes of her family if the situation is not handled carefully. For normal development each child needs a certain amount of affection which should be divided as evenly as possible among all members of the family.

Go to your doctor before he has to come to you. It is safer and cheaper.

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HAPPINESS FOR HANDICAPPED IS FOUND IN PLANNED PROGRAM

For the well child, life is, roughly speaking, divided into three parts: the hours he sleeps, the hours he is in school and his hours of play. Free from responsibility, he wanders at will, full of the plans of his "gang" and eager to keep his place and do his part. For the child who is ill, life presents a far different picture, says the *Child Health Bulletin.*

This is particularly true of the child with some form of heart disease for whom there are weeks and often months of inactivity ahead. He begins to realize suddenly that, hard though he has tried to hide his aches and pains for some time, at last he is cornered, his universe is turned upside down, and from the sidelines he must watch the world at play.

Days of loneliness may be full of joyous opportunity if rightly planned. Building boats of wood and making Scottie dogs of yarn may not be as exciting as a game of football or the snow cave where one lies in wait with one's friends for "stray bears." Yet there is a joy in the accomplishment of a craft learned that compares well with the thrill of the "bear hunt." One boy spent fascinating hours with a microscope. Another discovered a new world in books. Often latent talents have come to the surface during times of enforced idleness. One boy showed such definite artistic ability that a teacher of sculpturing was obtained through a cardiac clinic, and the patient is happily occupied, far from any thought of routine.

It is a wise mother who in the midst of her busy day takes time to sit quietly by and listen to the questions that come so eagerly from the small patient once he is sure that some one cares and can give him the time he needs. Simple explanations in regard to illness do much to allay the fear of even a young child. To the child when first put to bed the thought of his enforced inactivity is unbearable as he sees his schoolmates go on playing the same games he used to play with them. A carefully thought out routine will include time for reading, games and story telling besides craft work, so that the long day will go by quickly and the little patient will remain in a happy state of mind.

The person who undertakes to prescribe for himself almost always wastes his money and not infrequently endangers his health.

WAR ON TUBERCULOSIS IS CONTINUED THROUGH EDUCATION

Education has been one of the principal methods of attack on tuberculosis, which is still the great killer of modern young men and women. According to *Pennsylvania's Health* bulletin this necessary education of children, parents and teachers has been carried on through the press, the radio and widely distributed literature. The examination of contacts, annual health examinations, early diagnosis campaigns, clinics and sanatoriums have made large contributions toward the lowering of the tuberculosis death rate and the maintenance of health conditions throughout the country.

Too large a number of tuberculous patients willing to report to the clinic are already in the advanced stages of the disease. The lung tissue has been destroyed, and consolidation and cavitation are already present. Better case finding methods are essential to the continued lowering of tuberculosis death rates. It must be remembered, however, that case finding is "but one gear in the tuberculosis control mechanism." Prompt and efficient medical treatment and careful supervision must follow.

Where there is an active case of tuberculosis in the home, children in contact are usually infected in infancy or early childhood. In later childhood there is usually a long period of latency between the time of infection and the appearance of the manifest symptoms of the disease. Fortunately this childhood type of tuberculosis is generally benign and tends to heal.

Fatigue is the principal precipitating cause of active tuberculosis and of untimely deaths in the teens and twenties. No other single extracurricular activity in the schools causes as much fatigue as competitive athletics. True, these children do not often succumb on the athletic field. Nevertheless, their probable deaths within the next few years may be directly chargeable to the extreme fatigue of high school years. Ignorance of the fact that certain children are seriously infected with tubercle bacilli and therefore should not be subjected to the same strenuous lives as their well associates is the real cause of early death.

The higher death rate among adolescent girls deserves a word of warning. Girls have been found to have a more complex nervous system; they are prone to malnutrition because of diet fads, and they are much more affected by the changes of puberty than are boys.

SHOULD RESPONSIBILITY FOR CHILD'S CHARACTER REST WITH THE SCHOOL?

Should the schools be blamed for the seeming deterioration of character among the young people of this country? *Recreation* magazine answers this query, now being asked by many parents. There are many who demand that systematic moral and religious instruction be introduced into the schools.

In studying the question, two things should be considered. In the first place the roots of character go deep and its branches extend far. Character means all the desires, purposes and habits that influence conduct. If we could look into a person's mind and see which mental pictures are habitually entertained we should have an unsurpassed key to his character.

Furthermore, it must be realized that the school can be but one agency among the many that are active in forming character. Its influence is neither constant nor intense. Its main business is to promote the acquisition of certain skills and subject matter.

Formation of character is going on all the time; it cannot be confined to special occasions. Friends and associates of the growing boy or girl, parties and movies, the presence or absence of responsibilities in the home, the attitude of parents to each other—all these are operating and constant influences. In short, character is something that is formed rather than taught.

When the public is faced with the sum total of the bad results of existing conditions, a cry goes up that the schools are not doing their duty; let them give direct instruction in morals and religion. It is a matter of common experience, however, that formal instruction, particularly on this subject, often leaves no great impress.

It is also absurd to omit the effect made on the plastic character of youth by the economic conditions that prevail about them. Until recently many young people were brought up in homes where the emphasis was, both consciously and unconsciously, on material success. Many came to feel that the possession of money was the key to the things they most desired.

Better education for parents would be a large element in bringing about better moral education of children and youth. Through active parent organizations, more of the outside world can be brought into the schoolroom, breaking down that isolation from home and social life which is one of the chief reasons why schools do not do more effective work in character formation.

FRUITS AND VEGETABLES AID IN FIGHT AGAINST SCURVY

Scurvy, a deficiency disease thought to be obsolete long ago, is still with us according to reports from the Department of Agriculture, appearing in the *Child Health Bulletin*. This acute form of malnutrition shows itself whenever there has been a long period of deprivation such as many people have experienced in the last several years.

Scurvy is due to the lack of a specific kind of food substance, vitamin C, which is found chiefly in fruits and vegetables. An abundance of such nutritious foods as milk, bread and meat does not prevent the development of the disease. No one knows, however, how much of the lowered resistance to disease, especially among the low income groups, how much of tooth decay and how much of general debility are attributable to widespread subacute scurvy, which usually is difficult to recognize.

The richest of all common sources of vitamin C are the citrus fruits, oranges, lemons and grapefruit. Other fruits that have good protective value if eaten in sufficient quantity are berries and peaches. Tomatoes are likewise rich in vitamin C content. Because cooking lowers the vitamin C value of foods, it is a good plan to eat some raw fruits and vegetables daily. Raw turnips, carrots, spinach and cauliflower, lettuce, radishes, onions and celery, for example, may be attractively served in salads.

Scurvy is more likely to be found in infants than among older children and adults. Breast-fed babies rarely have scurvy because mother's milk, if the mother eats plenty of vegetables and fruits, contains vitamin C. The United States Children's Bureau, in its directions for infants' care, advises strained orange or tomato juice for the baby as soon as the first month of life is passed.

Consequently, not only for the prevention of scurvy but for maintenance of good nutrition, a city family should plan to spend a fair share of the food money for fruits and vegetables throughout the year. From twenty to twenty-five cents of each dollar should buy a well chosen variety of these commodities for the family diet. The other three-fourths should be apportioned to milk, bread and cereals, lean meat, fish, eggs, butter and other fats, and the other food products. Such systematic care of both the baby's and the family's diet will contribute materially to the elimination of scurvy.

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By LEO J. LATZ, M.D., LL.D.

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ADOLESCENCE NEED NOT BE A HARRIED PERIOD OF STRESS AND STRAIN

In terms of an old saying, the adolescent is "neither grass nor hay"; he is at that indefinite age when the gates of childhood have been passed but the adult right of way is not yet entered. At this point the youngster is ambiguous. Neither child nor adult, he takes on the character of both and is made to swing between these two rôles. At one moment he is likely to be assailed with the worst qualities of the child and at the next, with the undesirable attributes of the adult.

The problem is discussed in the *Mental Health Bulletin* of the Illinois Society for Mental Hygiene. It is during this adolescent period that the child's emotional desires probably reach their maximum, but he has not yet attained the proportionate judgment and control. It is normal for a child to wish to grow up, a natural incentive that must be fostered and encouraged along the way so that he can take the hurdles toward maturity without too crippling a sense of defeat.

Adolescence need not be the period of stress and strain so often described. If the child has been trained to stand on his own feet, to experiment and make his own decisions according to his capacities, he is ready to take the next step with reasonable success. Too often the youngster is thrust into new situations of unexpected responsibility for which he has had little preparation.

The adolescent is really not as unconventional as he is sometimes said to be. To him it is most important that he fit in. His attempts to do so may appear amusing, but there is no occasion when the adult has greater need of keeping a perspective. The child should be free to fit into his own age group and his own world, which is not the same world as that of his parents. Too often his elders tend to tighten up their control as he moves toward independence.

There is no greater achievement or sacrifice for a parent than to give to the world his child who has become an adult in the real sense of the word.

While the home has become a safer place for children, it has become increasingly hazardous to adults. The rate of home accidents fatal to children has declined in the last six years. For adults it has risen nearly 42 per cent. Half of these accidents to adults are the result of falls.

PHYSICAL EDUCATION: A DEFINITE PART OF THE SCHOOL PATTERN

"Our schools cannot bind boys and girls to one way of thinking; the development of open-mindedness is one essential of education for tomorrow." *The Journal of Health and Physical Education* uses this quotation by G. B. Phillips, president of the North Carolina Education Association, in a discussion of public health in the public schools of tomorrow.

This is a rapidly changing age. Education for tomorrow, then, must assist both young and old to adjust themselves to changing conditions. Physical education is no exception. It is a definite unit in the pattern of tomorrow's schools. Physical education has no methods, no principles, no objectives but those in general education.

Often young people find out too late that health and happiness and success do not come the easy way; that frequently the best friend a man has is the stimulus and challenge of being faced with difficulties sufficiently arduous to awaken the courageous resistance of his slumbering soul. A physical education program should teach courage. It should help teach respect for and a sense of the importance of hard work. No such attitude as "letting George do it" ever won a baseball game. Boys and girls learn in physical education classes those activities in which they succeed or fail, win or lose through the work of their own minds and their own muscles.

It has been said that education demands of physical education more than exercise, more than winning teams, more than dance dramas. It is a way of living, a way that places values on significant measures.

For many years, complaints have been made against the overemphasis of athletic competition in public schools. Today the young people themselves are saying in no uncertain terms that they no longer wish to sit on the sidelines and watch other persons play. They want to learn to play and play well.

Neither education nor religion are worth while unless they function every day, every year, as long as life lasts.

I shall try to correct errors when shown to be errors, and I shall adopt new views so fast as they shall appear to be true views.

—Abraham Lincoln.

A hopeful, cheerful disposition is one of the best remedies for pulmonary tuberculosis.

—The Hoosier Res-Cuer.